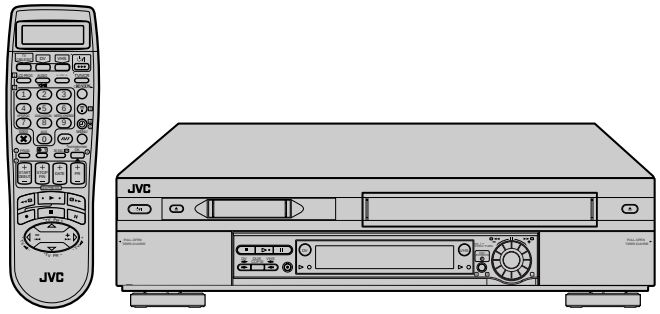
JVC

SERVICE MANUAL

Mini DV/S-VHS VIDEO CASSETTE RECORDER

HR-DVS3EK/EU



SHOWVIEW® DELUXE
Hi-Fi S-VHS 625
Mini DV PAL Super VHS ET

SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-DVS3EU.)*

GENERAL

Power requirement : AC 220 V – 240 V~, 50 Hz/60 Hz
Power consumption
  Power on : 31 W
  Power off : 6.5 W
Temperature
  Operating : 5°C to 40°C
  Storage : –20°C to 60°C
Operating position : Horizontal only
Dimensions (WxHxD)
  : 435 mm x 106 mm x 380 mm
Weight : 5.1 kg
Input/Output : 21-pin SCART connectors:
  IN/OUT x 1, IN/DECODER x 1
  RCA connectors:
  VIDEO IN x 1, AUDIO IN x 1,
  AUDIO OUT x 1
  S-Video connectors:
  IN x 1, OUT x 1
  DV connector:
  IN/OUT x 1 (4-pin, IEEE1394
  conformity, digital input/output)

VHS DECK VIDEO/AUDIO

Signal system : PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system : DA4 (Double Azimuth) head helical scan system
Format : S-VHS/VHS PAL standard
Signal-to-noise ratio: 45 dB
Horizontal resolution
  (SP/LP) : 250 lines (VHS)
  400 lines (S-VHS)
Frequency range : 70 Hz to 10,000 Hz (Normal audio)
  20 Hz to 20,000 Hz (Hi-Fi audio)
Maximum recording time
  (SP) : 240 min. with E-240 video cassette
  (LP) : 480 min. with E-240 video cassette

DV DECK VIDEO/AUDIO

Signal system : PAL-type colour signal, 625 lines 50 fields
Recording system : Digital Component Recording
Format : DV format (SD mode)
Cassette : Mini DV Cassette
Maximum recording time
  (SP) : 80 min. with M-DV80ME cassette
  (LP) : 120 min. with M-DV80ME cassette
Audio recording system
  : PCM 48 kHz, 16 bit (2 ch)/
  32 kHz, 12 bit (4 ch)

TUNER/TIMER

TV channel storage capacity
  : 99 positions (+AUX position)
Tuning system : Frequency synthesized tuner
Channel coverage : VHF 47 MHz – 89 MHz/
  104 MHz – 300 MHz/
  302 MHz – 470 MHz
  UHF 470 MHz – 862 MHz
Memory backup time
  : Approx. 10 min.

ACCESSORIES

Provided accessories
  : RF cable,
  21-pin SCART cable,
  Satellite Controller,
  Infrared remote control unit,
  "R6" battery x 2

Specifications shown are for SP mode unless otherwise specified.
E.& O.E. Design and specifications subject to change without notice.

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The following table lists the differing points between models HR-DVS3EK and HR-DVS3EU.

ITEM \ MODEL	HR-DVS3EK	HR-DVS3EU
POWER PLUG	3PIN(CLASS II)	CEE(CLASSII)
VIDEO SYSTEM	PAL/NTSC ON PAL TV	PAL/MESECAM(MANUAL)/NTSC ON PAL TV
BROADCASTING STANDARD	I	B/G, D/K
STEREO DECODER	NICAM	NICAM/A2
VCR PLUS+	VIDEO PLUS+ DELUXE	SHOWVIEW DELUXE
LANGUAGE[INITIAL](ON SCREEN DISPLAY)	ENGLISH	10 LANGUAGE [E]

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

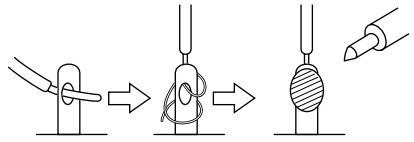


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

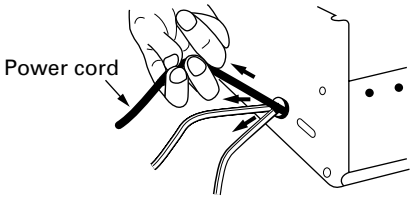


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number :** E03830-001
    2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

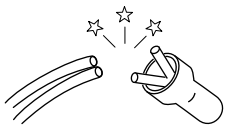


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

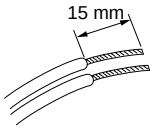


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

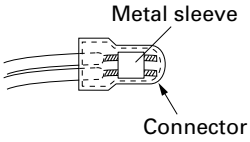


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

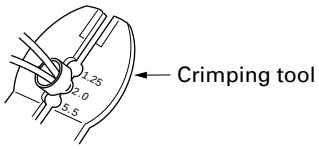


Fig.6

(5) Check the four points noted in Fig.7.

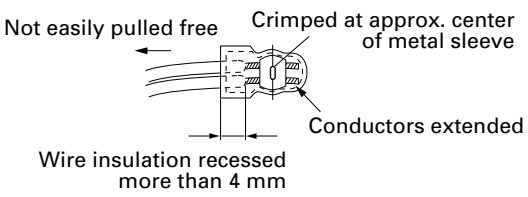

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

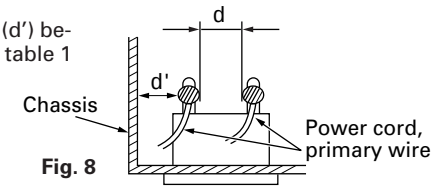


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

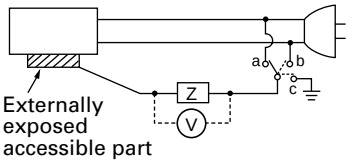


Fig. 9

5. Grounding (Class Ⅰ model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

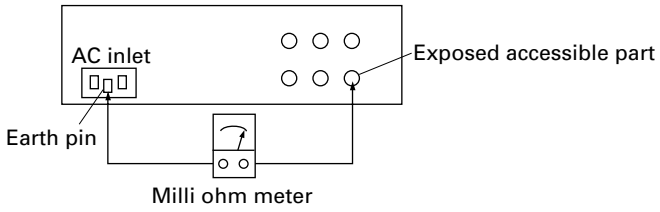


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
DISASSEMBLY

1.1 HOW TO REMOVE THE MAJOR PARTS

1.1.1 Introduction

This set is a double-deck video recorder integrating a Mini DV deck and a VHS deck. Its internal structure is divided into three sections that include the power supply, VHS and DV sections. Therefore, the removal of major parts will also be described under three separate sections as listed below.

1. COMMON section
2. VHS section
3. DV section

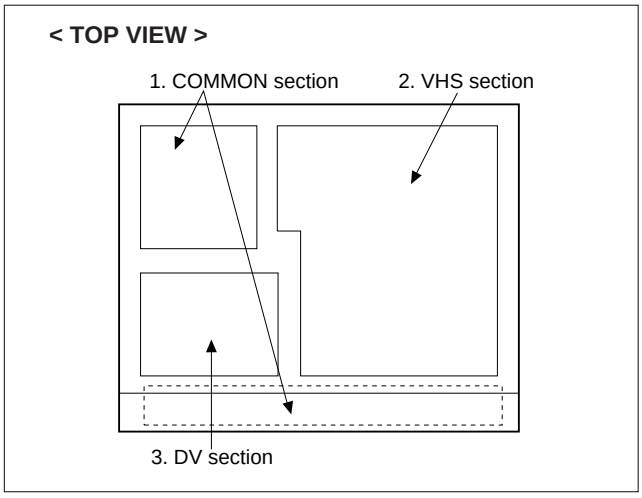


Fig. 1-1-1

1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

Step/ Loc No.	Part name	Fig. No.	Point	Note
①	Top cover, Bracket	COM1	4(S1), 3(S2), 2(L1), (L2) 2(S3)	—
②	Front panel assembly	COM2	8(L3), CN7507(WR1), CN3011(WR2)	<Note 1,2,3,4>
	(1)	(2)	(3)	(4)	(5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.
(2) Part name to be removed or installed.
(3) Fig. No. showing procedure or part location.
(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P= Spring, W= Washer, S= Screw, L= Locking tab, SD= Solder, CN**(WR**)= Remove the wire (WR**) from the connector (CN**).

Note:

- **The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.**

(5) Adjustment information for installation

1.3 DISCONNECTION OF CONNECTORS (WIRES)

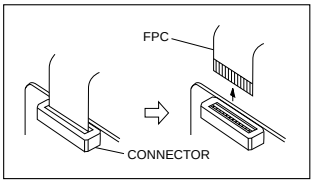


Fig. 1-3-1

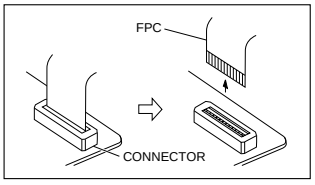


Fig. 1-3-2

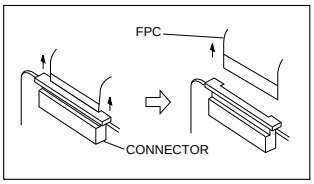


Fig. 1-3-3

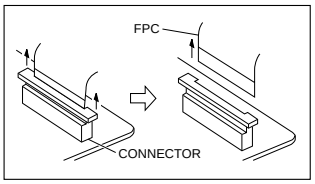


Fig. 1-3-4

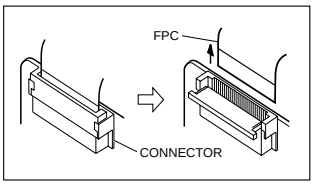


Fig. 1-3-5

1.4 HOW TO REMOVE THE MAJOR PARTS <COM section>

1.4.1 Disassembly flow chart

This flowchart shows the disassembly procedure for the exterior parts and electrical parts.
Basically, reverse this procedure when assembling them.

[1] Top cover, Bracket
↓
[2] Front panel assembly
↓
[3] SW/Display board assembly, Power SW board assembly, Jog board assembly
↓
[4] SW REG board assembly
↓
[5] Foot assembly, Foot(center), Foot(rear), Bottom cover

1.4.2 Disassembly/assembly method <COM section>

Step/ Loc No.	Part name	Fig. No.	Point	Note
[1]	Top cover	COM1	4(S1a), 2(S1b)	—
	Bracket		2(S1c)	
[2]	Front panel assembly	COM2	8(L2a), CN7510(WR2a), CN3011(WR2b)	<Note 2a, 2b, 2c,2d>
[3]	SW/Display board assembly	COM3	8(S3a)	—
	Power SW board assembly		2(S3b)	
	Jog board assembly		2(S3c),Knob(Jog)	
[4]	SW REG board assembly	COM4	4(S4a), CN5322(WR4a), CN5321(WR4b), CN5325(WR4c), CN5324(WR4d), CN5323(WR4e)	<Note 2a>
[5]	Lug wire	COM5	(S5a)	<Note 5a>
	Foot assembly Foot(center) Foot(rear)		5(L5a)	
	Bottom cover		4(L5b), 9(L5c), 2(L5d)	

<Note 2a>
- When attaching the FPC, be sure to connect it in the correct orientation.
- When attaching the FPC take care that it is not caught.
- When removing or attaching the WIRE/FPC, refer to "1.7 CONNECTION"(page 1-8) at same time.

<Note 2b>
When attaching the Front panel assembly, make sure that the door openers of both decks (DV, VHS) are in the down position.

<Note 2c>
When attaching the Front panel assembly, be careful not to damage the DV terminals.

<Note 2d>
When attaching (WR2a) and (WR2b), insert supporting long side to connector in the Main board assembly.

<Note 3a>
When attaching Jog board assembly, attach it before SW/Display board assembly.

<Note 5a>
When removing Bottom cover, remove it after VHS section parts and DV section parts.

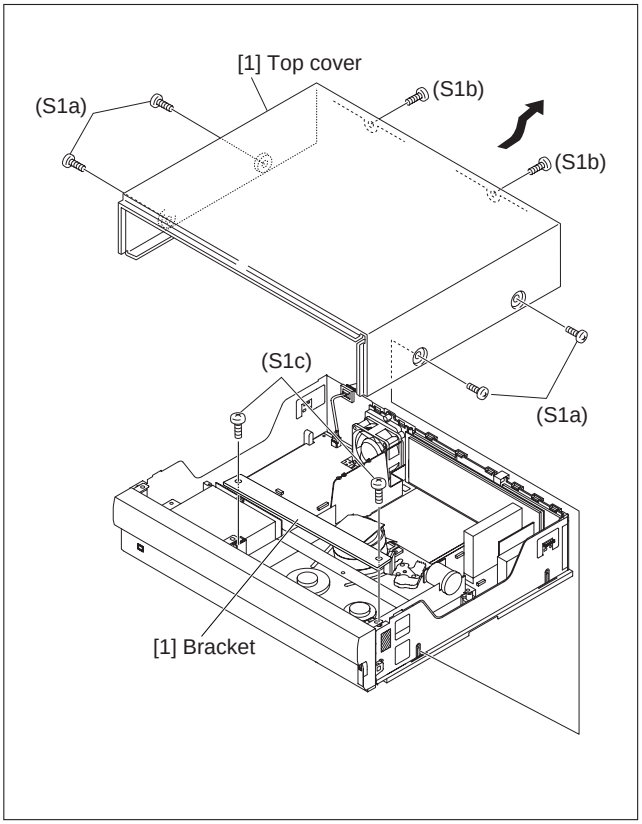


Fig. COM1

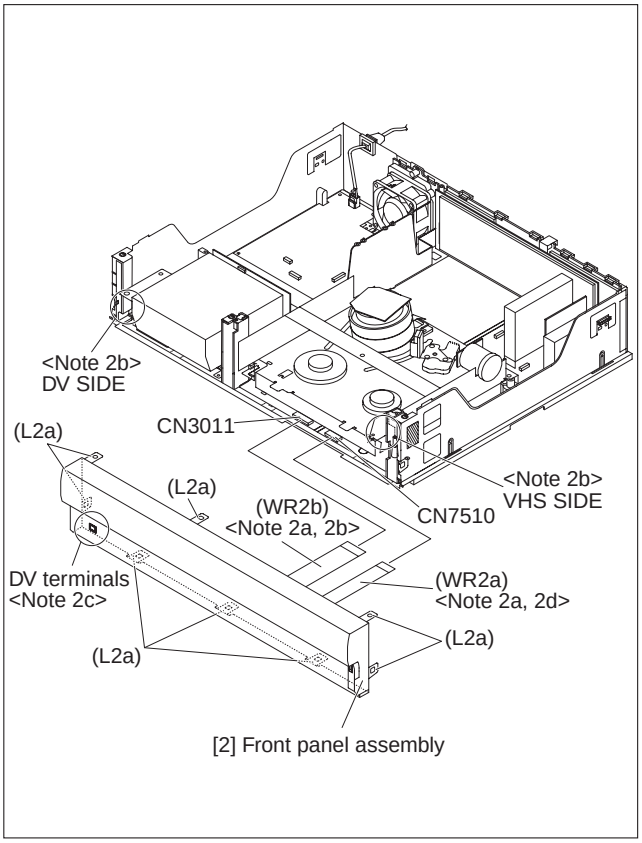


Fig. COM2

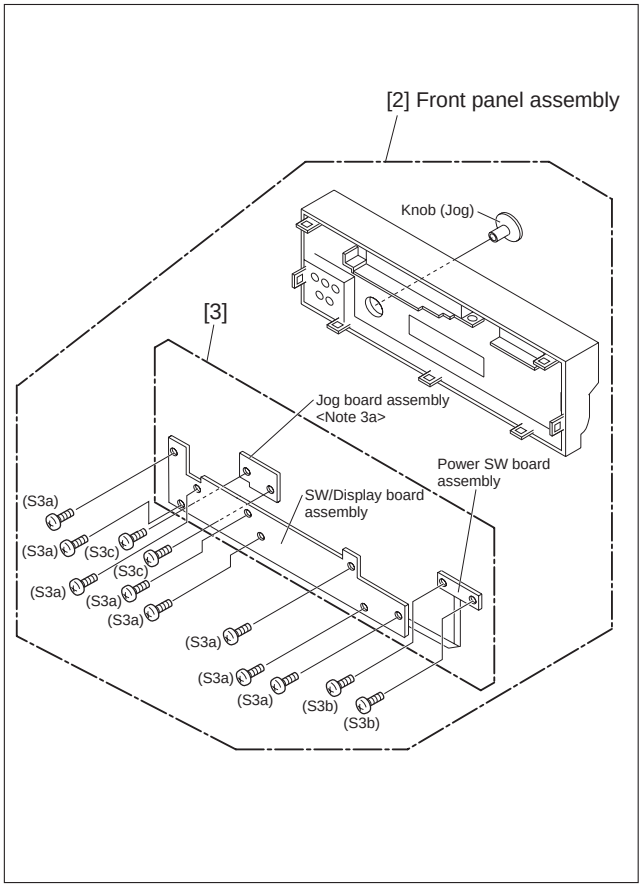


Fig. COM3

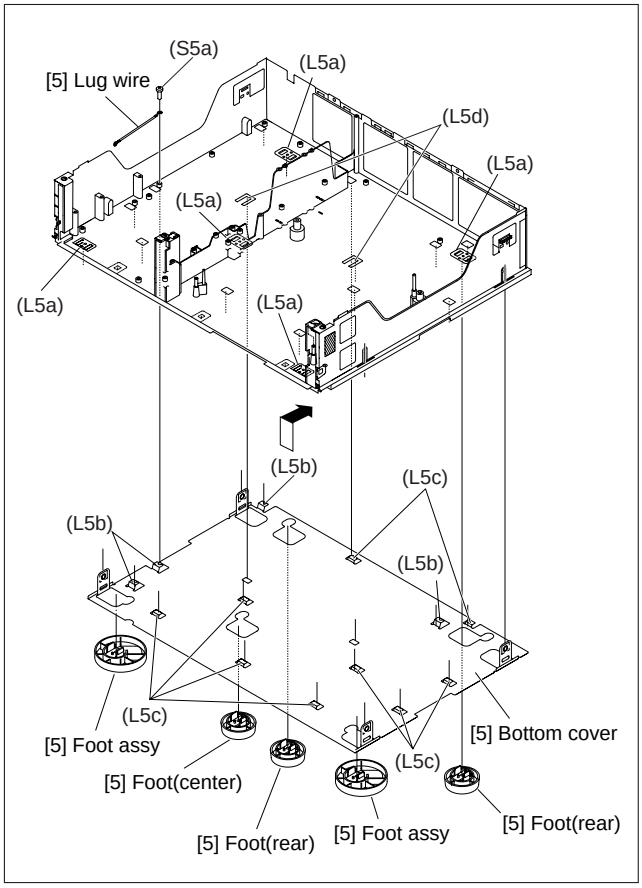


Fig. COM5

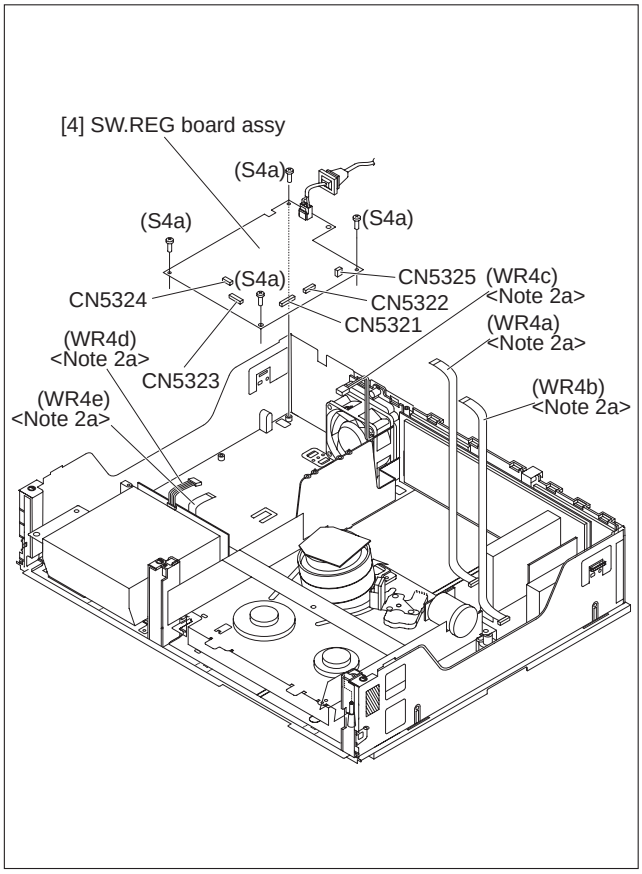
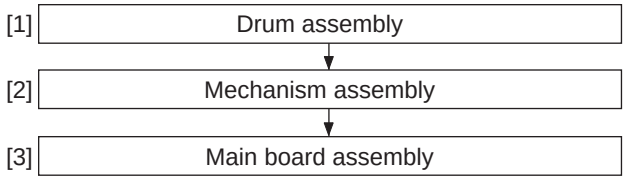


Fig. COM4

1.5 HOW TO REMOVE THE MAJOR PARTS <VHS section>

1.5.1 Disassembly flow chart

This flowchart shows the disassembly procedure for the exterior parts and electrical parts.
Basically, reverse this procedure when assembling them.
However, it is required to remove the common section parts as far as [1] "Top cover Bracket" and [2] "Front panel assembly" in advance. (See section 1.4.)



1.5.2 DIsassembly/assembly method <VHS section>

Step/ Loc No.	Part name	Fig. No.	Point	Note
[1]	Drum assembly	V1	CN1(WR6a), CON1(WR6b), (S6a), (S6b), (S6c)	<Note 1a,1b>
	(Inertia plate)		4(L6a)	
	(Roller arm assy)		(P6a), (L6b)	
[2]	Mechanism assembly	V2	(S7a), (S7b), (S7c), (S7d), 2(L7a), CN1(WR7a)	<Note 1b, 2a, 2b, 2c>
[3]	Main board assembly	V3	(S8a), 6(L8a), CN701(WR8a), CN2601(WR8b), CN3014(WR8c)	<Note 1b>

<Note 1a>
When attaching or removing the FPC, take care not to disconnect any of the wires.

<Note 1b>
- When attaching the FPC, be sure to connect it in the correct orientation.
- When removing or attaching the WIRE/FPC, refer to "1.7 CONNECTION"(page 1-8) at same time.

<Note 2a>
When it is required to remove the screws ((S7a), (S7b), (S7c) and (S7d)) retaining the Mechanism assembly, please refer to the "Procedures for Lowering the Cassette holder assembly"(See on page 1-4).

<Note 2b>
- When reattaching the Mechanism assembly to the Main board assembly, take care not to damage the sensors on the Main board assembly (D3001: LED, Q3002: Start sensor, Q3003: End sensor, S3002: S cassette switch).
- When reattaching the Mechanism assembly to the Main board assembly, CN2 of LOADING MOTOR BOARD should not be floated.

<Note 2c>
- When removing the Mechanism assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Mechanism assembly.

Procedures for Lowering the Cassette holder assembly

As the mechanism of this unit is integrated with the Housing assembly, the holder must be lowered and the two screws unscrewed when removing the Mechanism assembly.

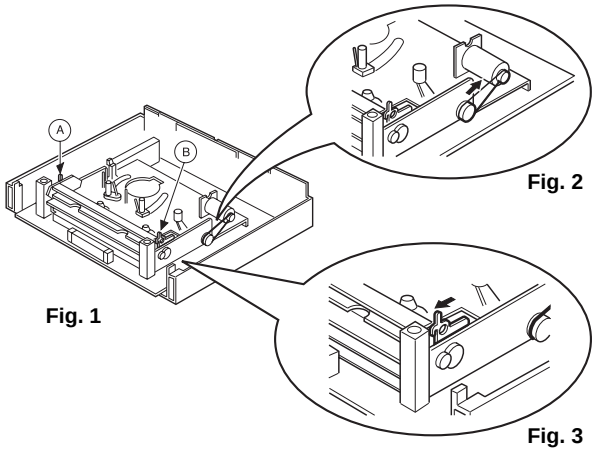


Fig. 1

Fig. 2

Fig. 3

Turn the loading motor pulley in the direction as indicated by Fig.2. As both Ⓐ and Ⓑ levers are lodged twice, push the levers in the direction as indicated by Fig.3 to release them. When pushing the levers, do it in the order of Ⓐ, Ⓑ, Ⓑ, Ⓐ. When the holder has been lowered, turn the pulley until the cassette holder is securely in place without allowing any up/down movement.

Procedures for Lowering the Cassette holder assembly

Note: When installing the Drum assembly, secure the screws (S6a to S6c) in the order of a, b, c.

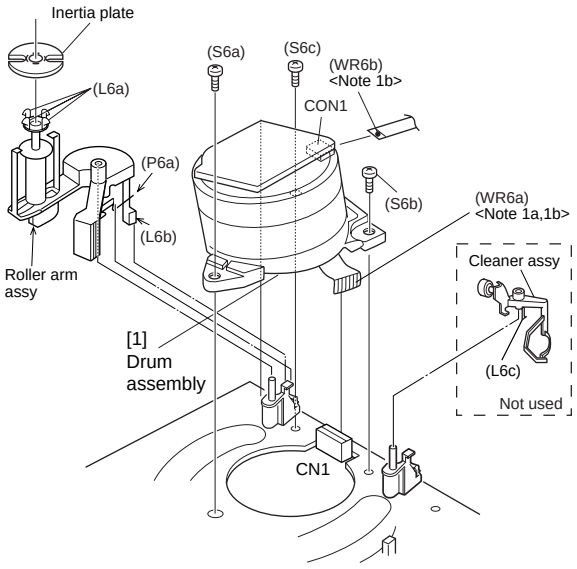


Fig. V1

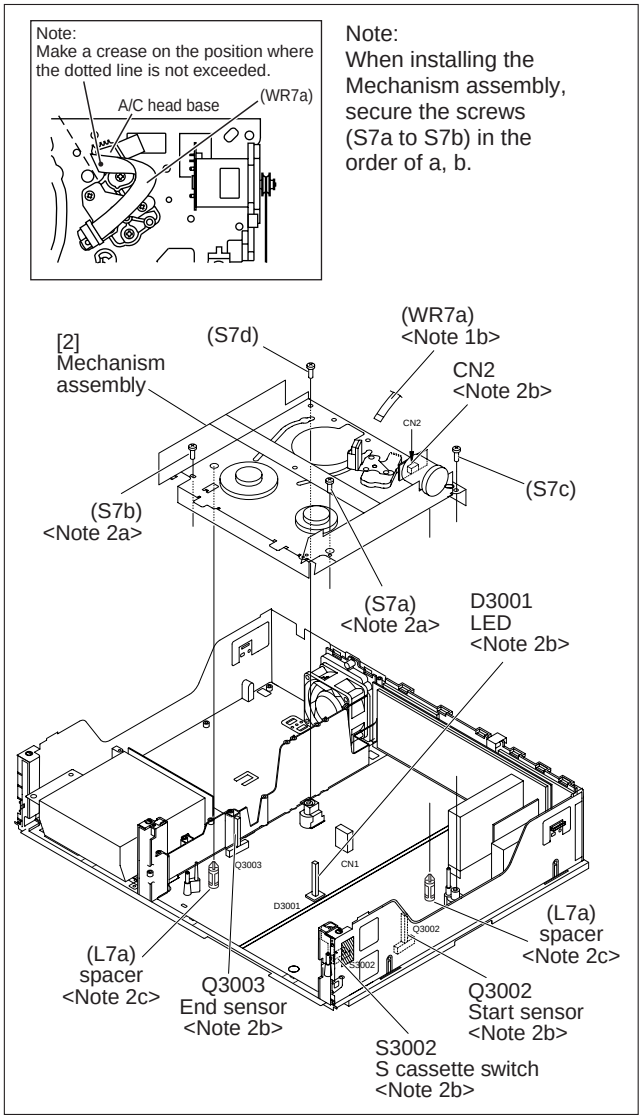

Note:
Make a crease on the position where the dotted line is not exceeded.
A/C head base
(WR7a)
Note:
When installing the Mechanism assembly, secure the screws (S7a to S7b) in the order of a, b.
[2] Mechanism assembly
(S7d)
(WR7a) <Note 1b>
CN2 <Note 2b>
CN2
(S7c)
(S7b) <Note 2a>
(S7a) <Note 2a>
D3001 LED <Note 2b>
Q3003
CN1
D3001
Q3002
S3002
(L7a) spacer <Note 2c>
(L7a) spacer <Note 2c>
Q3003 End sensor <Note 2b>
Q3002 Start sensor <Note 2b>
S3002 S cassette switch <Note 2b>

Fig. V2

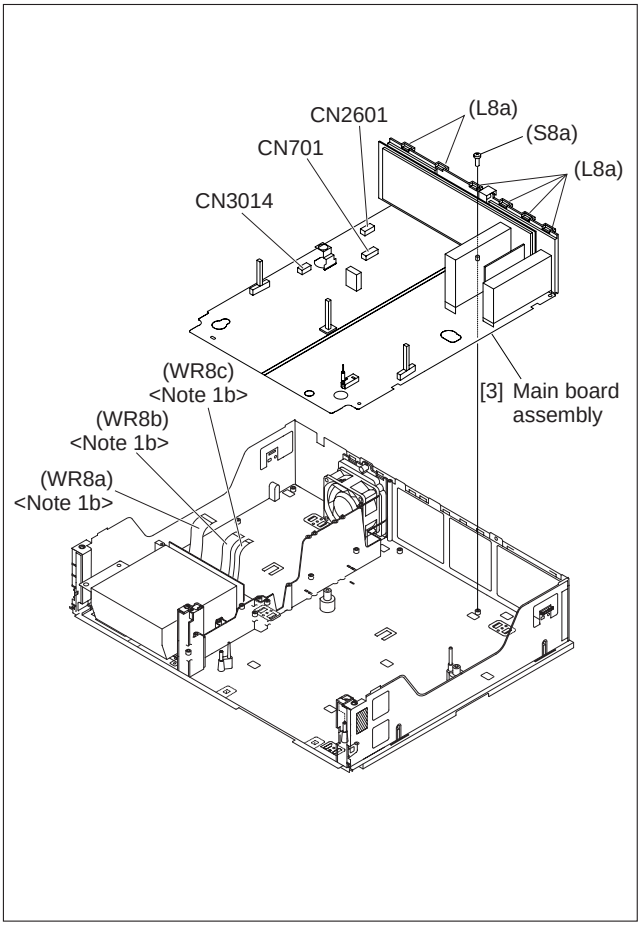

CN2601
(L8a)
(S8a)
CN701
(L8a)
CN3014
(WR8c) <Note 1b>
[3] Main board assembly
(WR8b) <Note 1b>
(WR8a) <Note 1b>

Fig. V3

1.6 HOW TO REMOVE THE MAJOR PARTS <DV section>

1.6.1 Disassembly flow chart

This flowchart shows the disassembly procedure for the exterior parts and electrical parts.
Basically, reverse this procedure when assembling them.
However, it is required to remove the common section parts as far as [1] “Top cover, Bracket” and [2] “Front panel assembly” in advance. (See section 1.5.)

[1] Base(DV)
↓
[2] DV Mechanisam assembly, DV Main board assembly
↓
[3] DV MDA board assembly

1.6.2 Disassembly/assembly method <DV section>

Step/ Loc No.	Part name	Fig. No.	Point	Note
[1]	Base(DV)	D1	3(S9a), (S9b)	<Note 1a>
[2]	DV Mechanism assembly	D2	3(S10a), CN1502(WR10a), CN4001(WR10b) CN1501(WR10c)	<Note 2a, 2b, 2c>
	DV Main board assembly		4(S10b)	
[3]	DV MDA board assembly	D3	2(S11a), 2(S11b), 2(L11a), CN5503(WR11a), CN5504(WR11b), CN5502(WR11c), CN5505(WR11d), CN5507(WR11e), Bracket(MDA)	<Note 2c>

<Note 1a>
With due regard to operational considerations, remove the parts located on the Base(DV) (i.e. DV Mechanism assembly, DV MDA board assembly etc.) together before removing the major parts.

<Note 2a>
Take care not to scratch or damage the drum assembly by the cleaner assembly when performing work.

<Note 2b>
Take care not to damage the board assembly when detaching parts.

<Note 2c>
- When attaching the FPC, be sure to connect it in the correct orientation.
- When removing or attaching the WIRE/FPC, refer to "1.7 CONNECTION"(page 1-8) at same time.

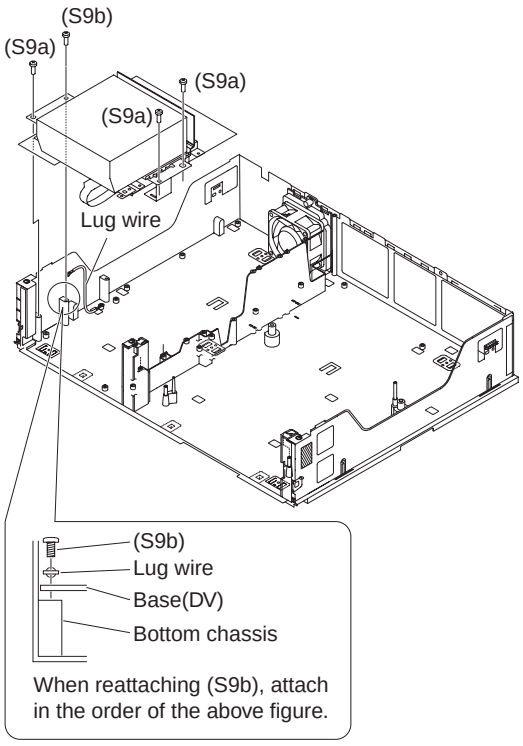


Fig. D1

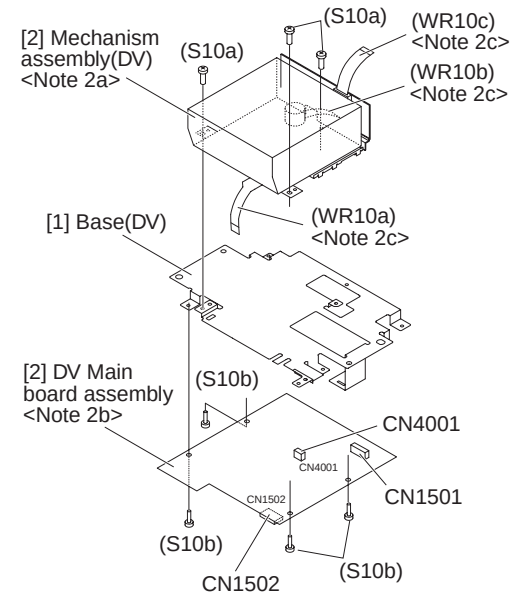


Fig. D2

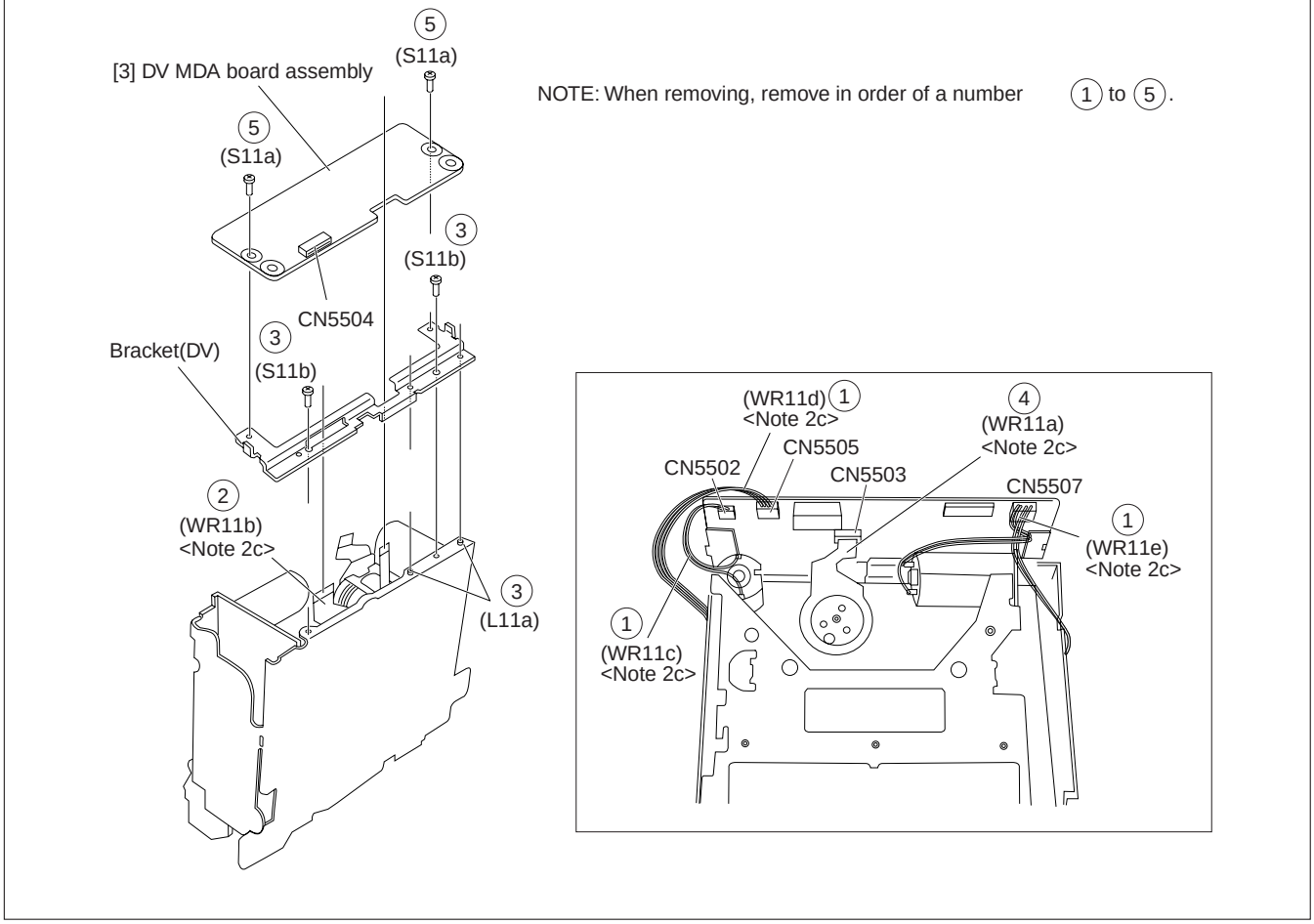
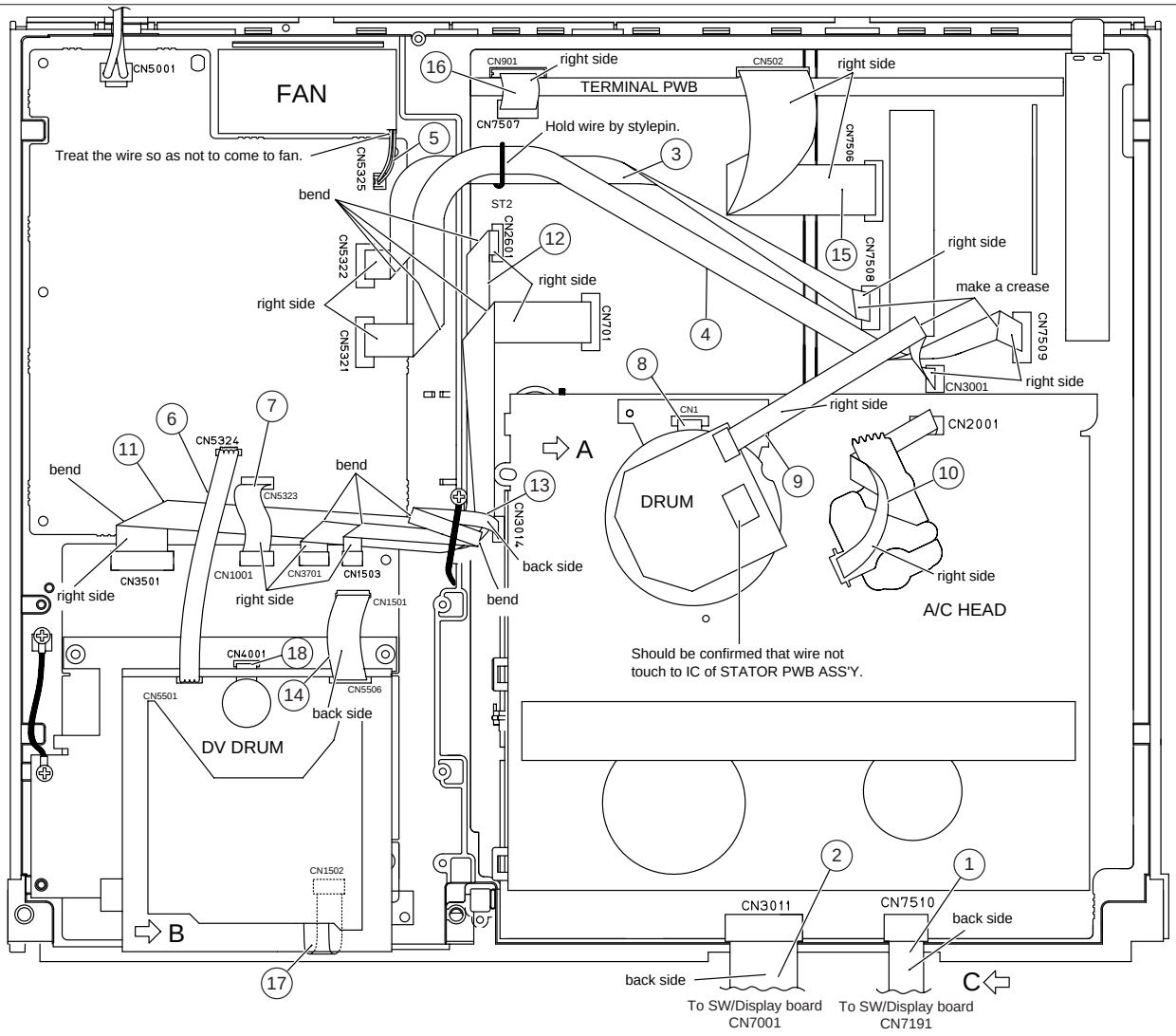

[3] DV MDA board assembly
5
(S11a)
5
(S11a)
3
(S11b)
CN5504
3
(S11b)
Bracket(DV)
2
(WR11b)
<Note 2c>
3
(L11a)
NOTE: When removing, remove in order of a number 1 to 5.
(WR11d) 1
<Note 2c>
4
(WR11a)
<Note 2c>
CN5505
CN5502
CN5503
CN5507
1
(WR11e)
<Note 2c>
1
(WR11c)
<Note 2c>

Fig. D3

1.7 CONNECTION



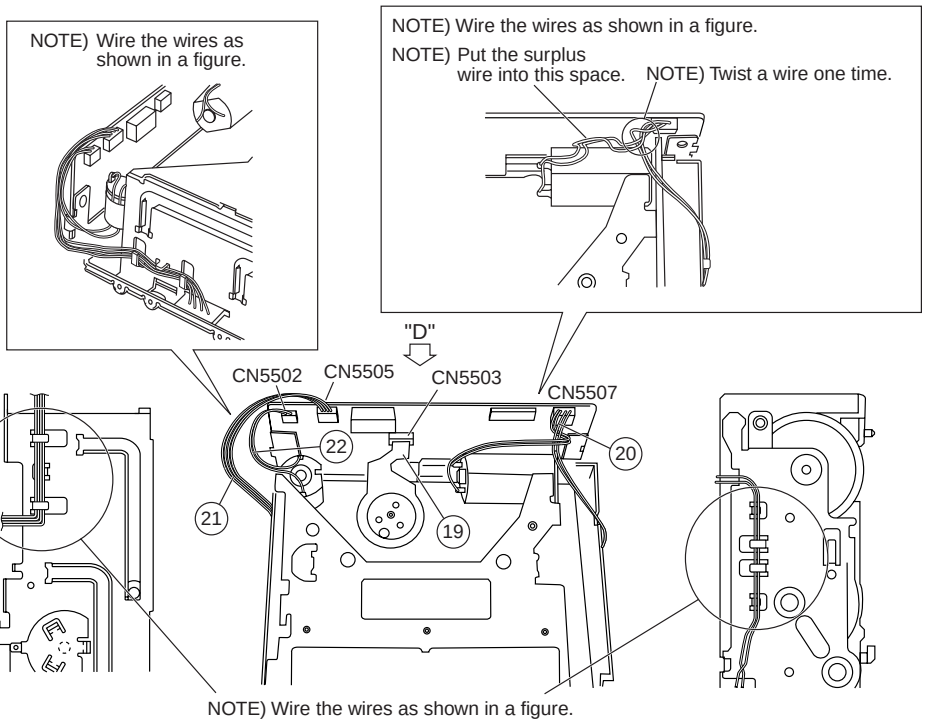


Fig. 1-7-1

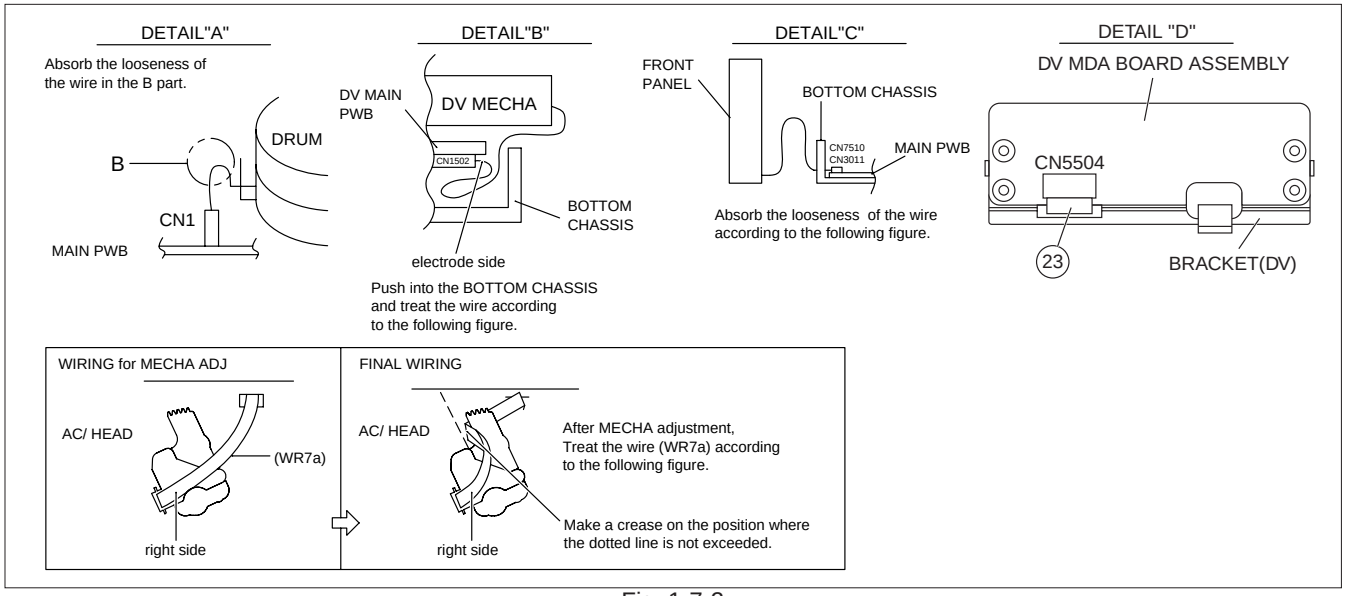


Fig. 1-7-2

Fig No.	Symbol	Connection					Pin No.	Type (FPC/ WIRE)
		Connected point		⇔	Connected point			
①	WR2a	MAIN	CN7510	⇔	SW/DISPLAY	CN7191	10	FPC
②	WR2b	MAIN	CN3011	⇔	SW/DISPLAY	CN7001	20	FPC
③	WR4a	MAIN	CN7508	⇔	SW/REG	CN5322	10	FPC
④	WR4b	MAIN	CN7509	⇔	SW/REG	CN5321	12	FPC
⑤	WR4c	SW/REG	CN5325	⇔	FAN MOTOR	-	2	WIRE
⑥	WR4d	SW/REG	CN5324	⇔	DV MDA	CN5501	5	WIRE
⑦	WR4e	SW/REG	CN5323	⇔	DV MAIN	CN1001	8	FPC
⑧	WR6a	MAIN	CN1	⇔	UPPER DRUM	-	13	FPC
⑨	WR6b	DRUM MOTOR	CON1	⇔	MAIN	CN3001	5	FPC
⑩	WR7a	A/C HEAD	CN1	⇔	MAIN	CN2001	7	FPC
⑪	WR8a	MAIN	CN701	⇔	DV MAIN	CN3501	14	FPC
⑫	WR8b	MAIN	CN2601	⇔	DV MAIN	CN3701	8	FPC
⑬	WR8c	MAIN	CN3014	⇔	DV MAIN	CN1503	4	FPC
⑭	WR10c	DV MAIN	CN1501	⇔	DV MDA	CN5506	20	FPC
⑮	-	MAIN	CN7506	⇔	TERMINAL	CN502	15	FPC
⑯	-	MAIN	CN7507	⇔	TERMINAL	CN901	9	FPC
⑰	WR10a	SENSOR(DV)	-	⇔	DV MAIN	CN1502	15	FPC
⑱	WR10b	PRE/REC(DRUM)(DV)	-	⇔	DV MAIN	CN4001	8	FPC
⑲	WR11a	DRUM MOTOR(DV)	-	⇔	DV MDA	CN5503	11	FPC
⑳	WR11e	HOUSING MOTOR(DV)	-	⇔	DV MDA	CN5507	4	WIRE
㉑	WR11d	ROTARY ENCODER(DV)	-	⇔	DV MDA	CN5505	4	WIRE
㉒	WR11c	LOADING MOTOR(DV)	-	⇔	DV MDA	CN5502	2	WIRE
㉓	WR11b	CAPSTAN MOTOR(DV)	-	⇔	DV MDA	CN5504	18	FPC

Table 1-7-1

1.8 SERVICE POSITIONS

The servicing locations for use in troubleshooting or servicing of the set are provided separately for the VHS and DV.

- Ⅰ **SERVICE POSITIONS <VHS SIDE>**
- Ⅱ **SERVICE POSITIONS <DV FOIL SIDE>**
- Ⅲ **SERVICE POSITIONS <DV COMPONENT SIDE>**

1.8.1 Requirement PATCH CORDS

The following PATCH CORDS is required.

	Board to Board	Wire	Used
①	PTU94022-10	QUQ212-1040CG	Ⅰ
②	PTU94022-20	QUQ112-2040CG	Ⅰ
③	YTU94074-15	QUQ105-1540AA	Ⅲ

Table 1-8-1

1.8.2 Service position <VHS SIDE>

<Removal>

(1) Remove the top cover and bracket.
(2) Remove the front panel assembly.
(3) Remove the Main board assembly together with the Mechanism assembly.

< Installation >

(1) Stand up the Bottom chassis assembly so that the DV/Regulator side is in the lower position.

Note: • Take care to the fall of the Fan.

(2) Connect FPCs and wires accordingly in Fig. 1-8-1.

Point: • Take care that the FPCs and wires are not subjected to stress in this positioning.

(3) Connect the PATCH CORDS to the two FPCs of the Front panel assembly, then connect the CORDS to the CN7510/CN3011.

For the PATCH CORD is required, see Table 1-8-1.

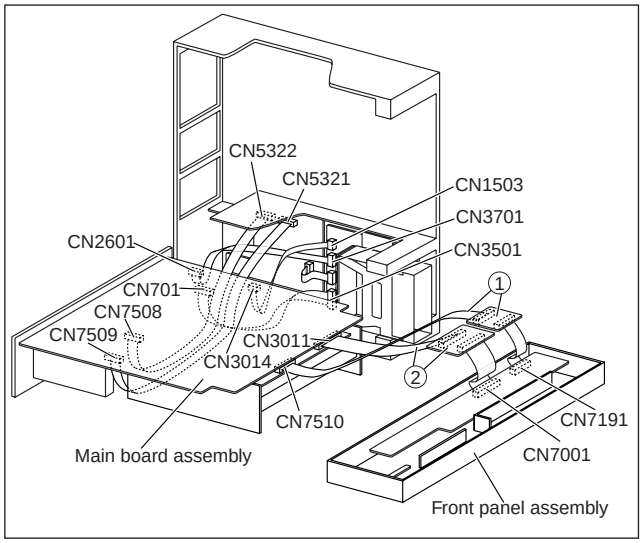


Fig. 1-8-1

1.8.3 Service position <DV FOIL SIDE>

<Removal>

(1) Remove the top cover and bracket.
(2) Remove the front panel assembly.
(3) Remove the Base(DV) together with DV Mechanism assembly and DV Main board assembly.

Note:

• Take care not to damage the parts during operating.

< Installation >

(1) Place an insulation sheet on the SW/Reg board assembly.
(2) Place a DV section(Base(DV) with DV Mechanism assembly and DV Main board assembly) on the insulation sheet.(refer to Fig. 1-8-2)

Note:

• Confirm that FPCs and wires are not unconnected from the connectors.

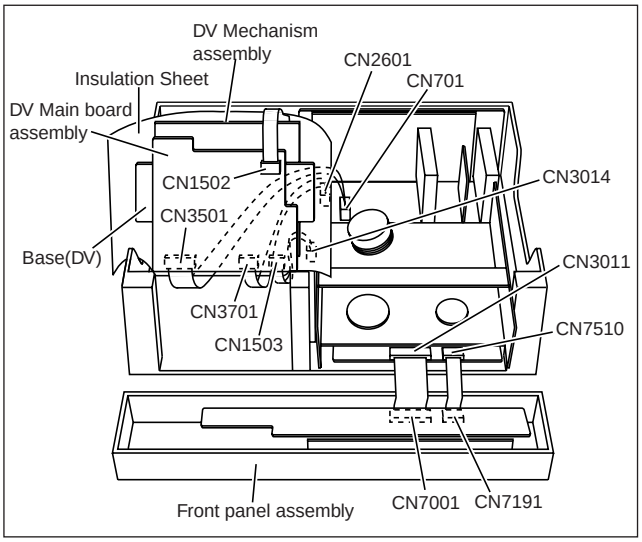


Fig. 1-8-2

1.8.4 Service position <DV COMPONENT SIDE>

<Removal>

(1) Remove the top cover and bracket.
(2) Remove the front panel assembly.
(3) Remove the Base(DV) together with DV Mechanism assembly and DV Main board assembly.
(4) Remove the DV Mechanism assembly and DV Main board assembly from Base(DV).

Note:

• Take care not to damage the parts during operating.

< Installation >

(1) Place a DV Main board assembly on the Bottom chassis.
(2) Place an insulation sheet on the rear side of DV Main board assembly.
(3) Place a DV Mechanism assembly on the insulation sheet.

Note:

• Confirm that DV Mechanism assembly be getting on on the insulation sheet completely.

(4) Connect PATCH CORD to the connector(CN1502) and connect FPC from DV Mechanism assembly.(refer to Fig. 1-8-3)
(5) Connect other FPCs and wires to the connector that corresponds each.(refer to "1-7 CONNECTION")

For the PATCH CORD is required, see Table 1-8-1.

Note:

• Confirm that FPCs and wires are not unconnected from the connectors(especially CN4001).

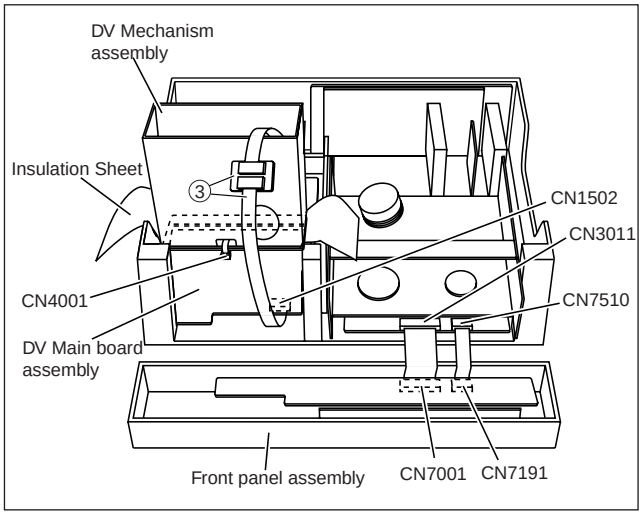


Fig. 1-8-3

1.9 Jig RCU mode

This unit uses the following two modes for receiving remote control codes.

1) User RCU mode : Ordinary mode for use by the user.
2) Jig RCU mode : Mode for use in production and servicing.

When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). As both of the above two modes are stored in the EEPROM, it is required to set the VCR back to the User RCU mode each time that an adjustment is made or to check that the necessary operations have been completed. These modes can be set by the operations described below.

1.9.1 Setting the Jig RCU mode

(1) Unplug the power cord plug from the power outlet.
(2) Press and hold the “REC” and “PAUSE” buttons on the VCR simultaneously, while plugging the power cord plug into the power outlet.
When the VCR is set to the Jig RCU mode, the symbols (“ : ”) in the time display of the FDP are turned off.

1.9.2 Setting the User RCU mode

(1) Turn off the power.
(2) Press the “REC” and “PAUSE” buttons of the VCR simultaneously. Alternatively, transmit the code “80” from the Jig RCU.

1.10 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the “MECHANISM SERVICE MODE”.

1.10.1 How to set the "MECHANISM SERVICE MODE"

(1) Disconnect VCR from AC.
(2) Connect TPGND and TP7001 (TEST) on the Display board assembly with a jump wire.
(3) Connect VCR to AC.
(4) Press the POWER button.
(5) With lock levers Ⓐ Ⓑ on the left and right of the Cassette holder assembly pulled toward the front, slide the holder in the same direction as the cassette insertion direction. (For the positions of lock levers Ⓐ Ⓑ, refer to the “Procedures for Lowering the Cassette holder assembly” on page 1-4 of 1.5 HOW TO REMOVE THE MAJOR PARTS <VHS section>
(6) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.

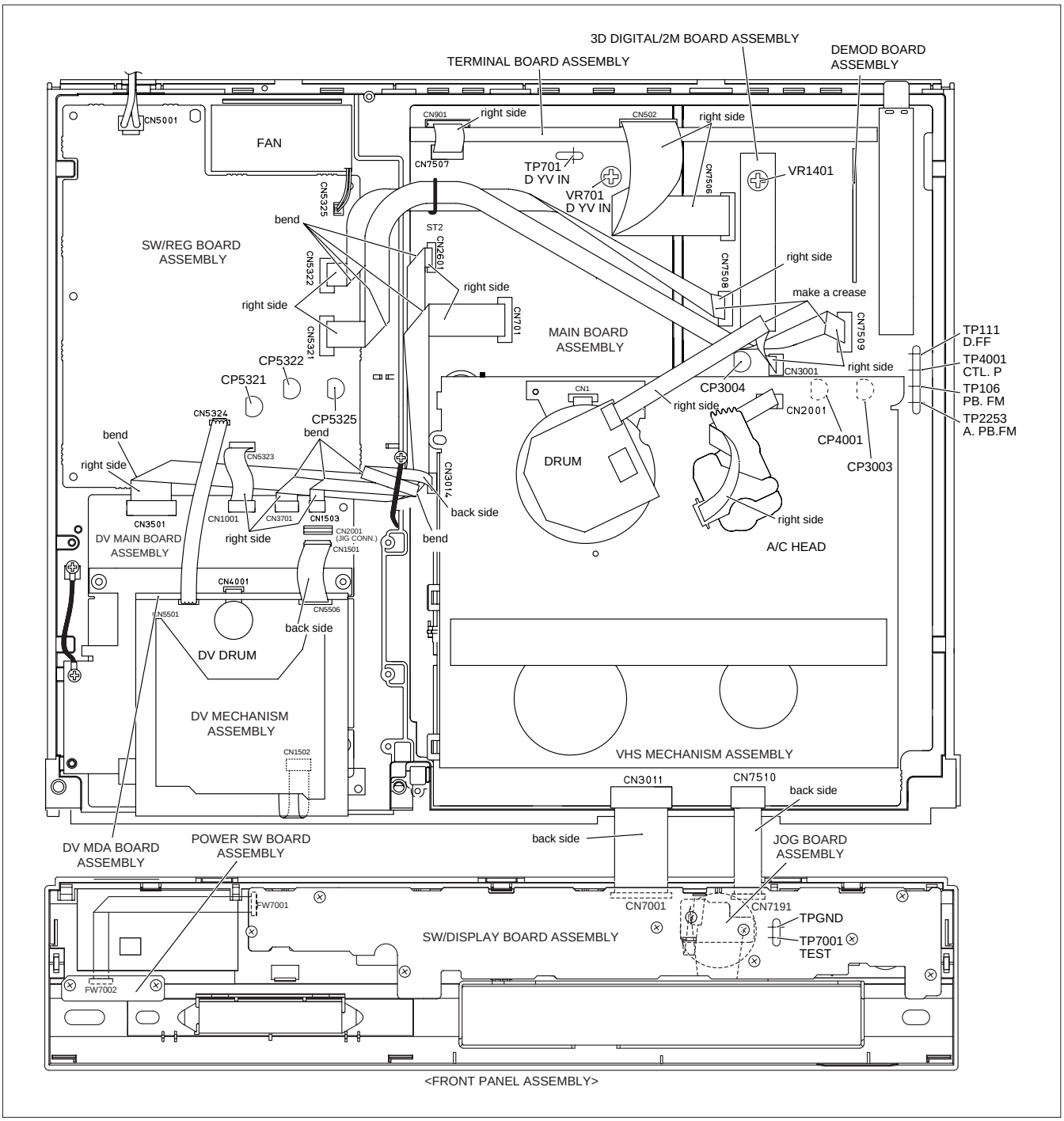
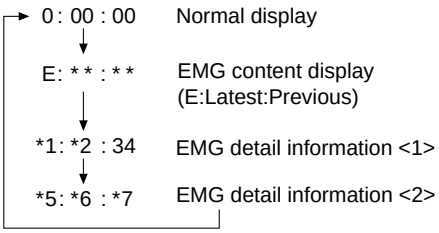


Fig. 1-10-1

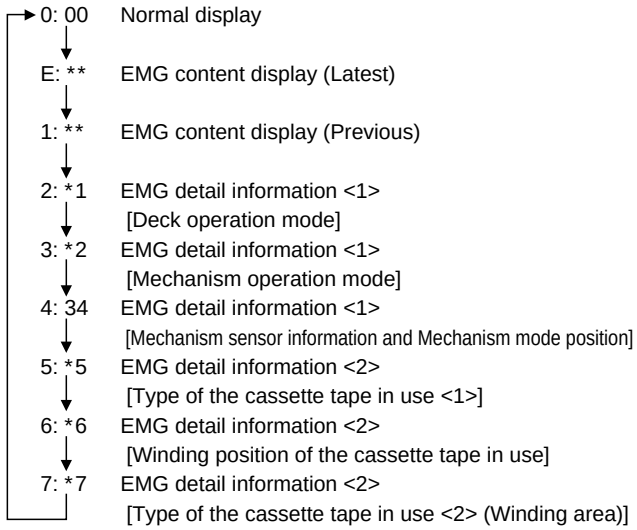
1.11 Emergency display function

This unit has a function for storing the history of the past two emergencies (EMG) and displaying them on each FDP (or OSD). With the status of the VCR and mechanism at the moment an emergency occurred can also be confirmed.

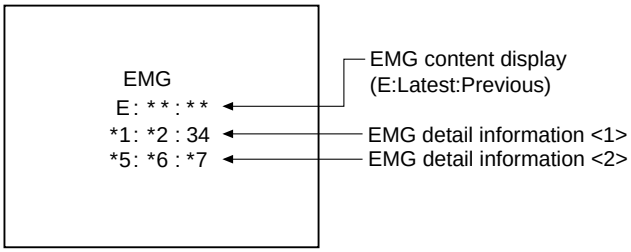
FDP display model
[FDP display]



FDP (7segment LED) display model
[FDP display]



OSD display model
[OSD display]



Notes:
- **The EMG detail information <1><2> show the information on the latest EMG.**
  It becomes " – – : – – : – –" when there is no latest EMG record.
- **When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received).**

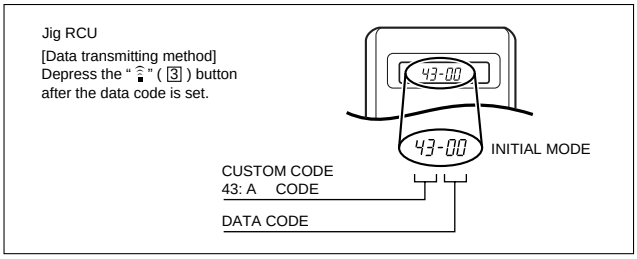


Fig. 1-11a Jig RCU [PTU94023B]

1.11.1 Displaying the EMG information

(1) Transmit the code "59" from the Jig RCU.
The FDP shows the EMG content in the form of "E: * * : * * ".

<Example 1> E : 01 : 03
Previous EMG
Latest EMG

<Example 2> E : – – : – – ← No EMG record

(2) Transmit the code "59" from the Jig RCU again.
The FDP shows the EMG detail information <1> in the form of " *1 : *2 : 34 ".
- *1 : Deck operation mode at the moment of EMG
- *2 : Mechanism operation mode at the moment of EMG
- 3– : Mechanism sensor information at the moment of EMG
- –4 : Mechanism mode position at the moment of EMG

(3) Transmit the code "59" from the Jig RCU once again.
The FDP shows the EMG detail information <2> in the form of " *5 : *6 : *7 ".
- *5 : Type of the cassette tape in use <1> .
- *6 : Winding position of the cassette tape in use
- *7 : Type of the cassette tape in use <2> (Winding area)

(4) Transmit the code "59" from the Jig RCU once again to reset the display.

Notes:
- **For the OSD display model, all EMG information are showed by transmitting first code from the Jig RCU.**
- **For the EMG content, see "1.7.3 EMG content description".**
- **For the EMG detail information <1> , see "1.7.4 EMG detail information <1> ".**
- **For the EMG detail information <2> , see "1.7.5 EMG detail information <2>".**

1.11.2 Clearing the EMG history

(1) Display the EMG history.
(2) Transmit the code "36" from the Jig RCU.
(3) Reset the EMG display.

1.11.3 EMG content description

Note: EMG contents "E08/E09" are for the model with Dynamic Drum (DD).

FDP	CONTENT	CAUSE
E01: Loading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the loading direction, [E:01] is identified and the power is turned off.	1. The mechanism is locked in the middle of mode transition. 2. The mechanism is locked at the loading end due to the encoder position reading error during mode transition. 3. Power is not supplied to the loading MDA.
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	1. The mechanism is locked in the middle of mode transition. 2. The mechanism is locked at the unloading end due to the encoder position reading error during mode transition. 3. Power is not supplied to the loading MDA.
E03: Take Up Reel Pulse EMG	When the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. However, the reel EMG is not detected in STILL/SLOW modes.	1. The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear; 2) The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3) The take-up reel sensor does not output the FG pulse. 2. The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The supply reel sensor does not output the FG pulse. 3. Power is not supplied to the reel sensors.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	1. The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. 2. The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. 3. The drum control voltage (DRUM CTL V) is not supplied to the MDA. 4. Power is not supplied to the drum MDA.
E05: Cassette Eject EMG	When the eject operation does not complete in 3 seconds after the start, [E:05] is identified, the pinch rollers are turned off and stopped, and the power is turned off. When the cassette insertion operation does not complete in 3 seconds after the start, the cassette is ejected. In addition, when the operation does not complete within 3 seconds after the start, [E:05] is also identified and the power is turned off immediately.	1. The cassette cannot be ejected due to a failure in the drive mechanism of the housing. 2. When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. 3. The sensor/switch for detecting the end of ejection are not functioning normally. 4. The loading motor drive voltage is lower than specified or power is not supplied to the motor (MDA). 5. When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off.However, the capstan EMG is not detected in STILL/SLOW/FF/REW modes.	1. The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). 2. The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. 3. The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. 4. Power is not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	1. The SW 5 V power supply circuit is shorted with GND. 2. The SW 12 V power supply circuit is shorted with GND.
E08: DD Initialized (Absolute Position Sensor) EMG	When DD tilting does not complete in 4 seconds, [E:08] is identified, the tilt motor is stopped and the power is turned off.	1. The absolute value sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the absolute sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the absolute value sensor. 4. The absolute value sensor data is not sent to the System Controller CPU.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	1. The FG sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. 4. The power to the sensor is not supplied. (Connection failure/soldering failure) 5. The FG pulse is not sent to the System Controller CPU. 6. The tilt motor is defective. (The soldered parts have separated.) 7. The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) 8. The tilt motor drive MDA - IC is defective. 9. Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). However, note that the reel EMG is not detected in the SLOW/STILL mode.	1. The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The FG pulse output from the supply reel sensor is absent. 2. The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The FG pulse output from the take-up reel sensor is absent. 3. The power to a reel sensor is not supplied.
EC1 or EU1: Head clog warning	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:C1] or [E:U1] is identified and recorded in the emergency history. During the period in which a head clog is detected, the FDP and OSD repeat the "3-second warning display" and "7-second noise picture display" alternately. EMG code : "E:C1" or "E:U1" / FDP : "U:01" / OSD : "Try cleaning tape." or "Use cleaning cassette." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

Table 1-11-3a

1.11.4 EMG detail information <1>

The status (electrical operation mode) of the VCR and the status (mechanism operation mode/sensor information) of the mechanism in the latest EMG can be confirmed based on the figure in EMG detail information <1> .

[FDP/OSD display]

*1 : *2 : 34

*1 : Deck operation mode at the moment of EMG
*2 : Mechanism operation mode at the moment of EMG
3– : Mechanism sensor information at the moment of EMG
–4 : Mechanism mode position at the moment of EMG

Note:

- **For EMG detailed information <1>, the content of the code that is shown on the FDP (or OSD) differs depending on the parts number of the system control microprocessor (IC3001) of the VCR. The system control microprocessor parts number starts with two letters, refer these to the corresponding table.**

***1 : Deck operation mode**
[Common table of MN*, HD* and M3*]

Display		Deck operation mode
MN*/M3*	HD*	
00	-	Mechanism being initialized
01	00	STOP with pinch roller pressure off (or tape present with P.OFF)
02	01	STOP with pinch roller pressure on
03	-	POWER OFF as a result of EMG
04	04	PLAY
0C	0E	REC
10	11	Cassette ejected
20	22	FF
21	-	Tape fully loaded, START sensor ON, short FF
22	-	Cassette identification FWD SEARCH before transition to FF (SP x7-speed)
24	26	FWD SEARCH (variable speed) including x2-speed
2C	2E	INSERT REC
40	43	REW
42	-	Cassette identification REV SEARCH before transition to REW (SP x7-speed)
44	47	REV SEARCH (variable speed)
4C	4C	AUDIO DUB
6C	6E	INSERT REC (VIDEO + AUDIO)
84	84	FWD STILL / SLOW
85	85	REV STILL / SLOW
8C	8F	REC PAUSE
8D	-	Back spacing
8E	-	Forward spacing (FWD transport mode with BEST function)
AC	AF	INSERT REC PAUSE
AD	-	INSERT REC back spacing
CC	CD	AUDIO DUB PAUSE
CD	-	AUDIO DUB back spacing
EC	EF	INSERT REC (VIDEO + AUDIO) PAUSE
ED	-	INSERT REC (VIDEO + AUDIO) back spacing

***2 : Mechanism operation mode**
[Common table of MN* and M3*]

Display		Mechanism operation mode
MN*	M3*	
00	00	Command standby (Status without executing command)
02	02	POWER OFF by EMG occurrence
04	04	Moving to the adjacent position in the LOAD direction
06	06	Moving to the adjacent position in the UNLOAD direction
08	08	Cassette ejection being executed / Cassette housing ejection being executed
-	0A	Mode transition to STOP with cassette ejection end
0A	0C	Cassette insertion being executed
0C	0E	Tape being loaded
0E	10	Tape being unloaded
10	12	Mode transition to STOP with pinch roller compression ON
12	14	Mode transition to STOP with pinch roller compression OFF
14	16	Mode transition to STOP with pinch roller compression OFF as a result of POWER OFF
16	18	Mode transition to STOP with pinch roller compression ON as a result of POWER ON
18	1A	Mode transition to PLAY
1A	1C	Mode transition to FWD SEARCH
1C	1E	Mode transition to REC
1E	20	Mode transition to FWD STILL / SLOW
20	22	Mode transition to REV STILL / SLOW
22	24	Mode transition to REV SEARCH
24	26	Mode transition from FF / REW to STOP
26	28	Mode transition to FF
28	2A	Mode transition to REW
2A	2C	4 sec. of REV as a result of END sensor going ON during loading
2C	2E	Short FF / REV as a result of END sensor going ON during unloading
2E	30	Mechanism position being corrected due to overrun
80	80	Mechanism in initial position (Dummy command)

[Table of HD*]

Display	Mechanism operation mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG
F2	Cassette being inserted
F3	Cassette being ejected
F4	Transition from STOP with pinch roller pressure on to STOP with pinch roller pressure off
F5	Transition from STOP with pinch roller pressure on to PLAY
F6	Transition from STOP with pinch roller pressure on to REC
F7	Cassette type detection SEARCH before FF/REW is being executed
F8	Tape being unloaded
F9	Transition from STOP with pinch roller pressure off to STOP with pinch roller pressure on
FA	Transition from STOP with pinch roller pressure off to FF/REW
FB	Transition from STOP with pinch roller pressure off to REC.P (T.REC,etc.)
FC	Transition from STOP with pinch roller pressure off to cassette type detection SEARCH
FD	Short REV being executed after END sensor on during unloading
FE	Tension loosening being executed after tape loading (STOP with pinch roller pressure on)

3– : Mechanism sensor information
[Common table of MN*, HD* and M3*]

Display	Mechanism sensor information				
	MN* / HD* S-VHS SW	M3* CASS SW	REC safety SW	Start sensor	End sensor
0-	VHS	Cassette insertion	Tab broken	ON	ON
1-	VHS	Cassette insertion	Tab broken	ON	OFF
2-	VHS	Cassette insertion	Tab broken	OFF	ON
3-	VHS	Cassette insertion	Tab broken	OFF	OFF
4-	VHS	Cassette insertion	Tab present	ON	ON
5-	VHS	Cassette insertion	Tab present	ON	OFF
6-	VHS	Cassette insertion	Tab present	OFF	ON
7-	VHS	Cassette insertion	Tab present	OFF	OFF
8-	S-VHS	Cassette ejection	Tab broken	ON	ON
9-	S-VHS	Cassette ejection	Tab broken	ON	OFF
A-	S-VHS	Cassette ejection	Tab broken	OFF	ON
B-	S-VHS	Cassette ejection	Tab broken	OFF	OFF
C-	S-VHS	Cassette ejection	Tab present	ON	ON
D-	S-VHS	Cassette ejection	Tab present	ON	OFF
E-	S-VHS	Cassette ejection	Tab present	OFF	ON
F-	S-VHS	Cassette ejection	Tab present	OFF	OFF

–4 : Mechanism mode position
[Common table of MN*, HD* and M3*]

Display			Mechanism mode position
MN*	HD*	M3*	
-0	-7	-	Initial value
-1	-0	-	EJECT position
-	-	-0	EJECT position (Cassette housing drive mode)
-2	-7	-	Housing operating
-	-	-1	Between EJECT and U / L STOP
-3	-1	-2	U / L STOP position
-	-	-3	Guide arm drive position
-4	-7	-4	Tape being loaded / unloaded (When the pole base is located on the front side of the position just beside the drum)
-5	-2	-5	Tape being loaded / unloaded (When the pole base is located on the rear side of the position just beside the drum)
-6	-7	-6	Pole base compressed position
-7	-3	-F	FF / REW position
-8	-7	-F	Between FF / REW and STOP with pinch roller compression ON
-9	-4	-F	STOP with pinch roller compression OFF
-A	-7	-E	Between STOP with pinch roller compression OFF and REV
-B	-5	-	REV (REV STILL / SLOW) position
-	-	-D	REV position
-	-	-C	Between REV and REV STILL / SLOW
-	-	-B	REV STILL / SLOW position
-C	-7	-	Between REV and FWD
-	-	-A	Between REV STILL / SLOW and FWD STILL / SLOW
-D	-6	-	FWD (FWD STILL / SLOW) position
-	-	-9	FWD STILL / SLOW position
-E	-7	-	Between FWD and PLAY
-	-	-8	Between FWD STILL / SLOW and PLAY
-F	-6	-7	PLAY position

Note:
- **In the case of the "HD*" microprocessor, as the display is always "-7" at any intermediate position between modes, the position of transitory EMG may sometimes not be located.**

1.11.5 EMG detail information <2>

The type of the cassette tape and the cassette tape winding position can be confirmed based on the figure in EMG detail information <2> .

[FDP/OSD display]

*5 :*6 :*7

*5 : Type of the cassette tape in use <1>
*6 : Winding position of the cassette tape in use
*7 : Type of the cassette tape in use <2> (Winding area)

Note:
- **EMG detail information <2> is the reference information stored using the remaining tape detection function of the cassette tape. As a result, it may not identify cassette correctly when a special cassette tape is used or when the tape has variable thickness.**

***5 : Cassette tape type <1>**

Display	Cassette tape type <1>
00	Cassette type not identified
16	Large reel/small reel (T-0 to T-15/T-130 to T-210) not classified
82	Small reel, thick tape (T-120) identified/thin tape (T-140) identified
84	Large reel (T-0 to T-60) identified
92	Small reel, thick tape (T-130) identified/thin tape (T-160 to T-210) identified
93	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) not classified
C3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
D3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
E1	C cassette, thick tape (TC-10 to TC-20) identified
E2	Small reel, thick tape (T-0 to T-100) identified
E9	C cassette, thin tape (TC-30 to TC-40) identified
F1	C cassette, thick tape/thin tape (TC-10 to TC-40) not classified

Notes:
- **Cassette tape type <1> is identified a few times during mode transition and the identification count is variable depending on the cassette tape type. If an EMG occurs in the middle of identification, the cassette tape type may not be able to be identified.**
- **If other value than those listed in the above table is displayed, the cassette tape type is not identified.**

***6 : Cassette tape winding position**

The cassette tape winding position at the moment of EMG is displayed by dividing the entire tape (from the beginning to the end) in 22 sections using a hex number from “00” to “15”.

“00” : End of winding
“15” : Beginning of winding
“FF or ––” : Tape position not identified

***7 : Cassette tape type <2> (Winding area)**

Display	Cassette tape type <2>	
00	Cassette type not identified	
07	Small reel, thick tape	T-5
08 - 0E	C cassette, thick tape	TC-10
09 - 15	C cassette, thick tape	TC-20P
0A - 0B	Small reel, thick tape	T-20
0A - 16	C cassette, thin tape	TC-30
0A - 16	C cassette, thin tape	TC-40
0D - 0F	Small reel, thick tape	T-40
11 - 14	Small reel, thick tape	T-60
15 - 18	Small reel, thick tape	T-80 / DF-160
17 - 1A	Small reel, thick tape	T-90 / DF-180
19 - 1D	Small reel, thick tape	T-100
1D - 21	Small reel, thick tape	T-120 / DF-240
1E - 1F	Small reel, thin tape	T-140
1F - 23	Small reel, thick tape	T-130
21 - 23	Small reel, thin tape	T-160
21 - 23	Small reel, thin tape	T-168
22 - 24	Small reel, thick tape	DF-300
22 - 24	Small reel, thin tape	T-180 / DF-360
22 - 24	Small reel, thin tape	T-210 / DF-420
22 - 23	Large reel	T-5
23 - 24	Large reel	T-10
25 - 26	Large reel	T-20
27 - 29	Large reel	T-30
29 - 2B	Large reel	T-40
2D - 2F	Large reel	T-60

Note:
- **The values of cassette tape type <2> in the above table are typical values with representative cassette tapes.**

SECTION 2
MECHANISM ADJUSTMENT (VHS)

2.1 Before starting repair and adjustment

2.1.1 Precautions

(1) Unplug the power cord plug of the VCR before using your soldering iron.
(2) Take care not to cause any damage to the conductor wires when plugging and unplugging the connectors.
(3) Do not randomly handle the parts without identifying where the trouble is.
(4) Exercise enough care not to damage the lugs, etc. during the repair work.
(5) When reattaching the front panel assembly, make sure that the door opener of the cassette holder assembly is lowered in position prior to the reinstallation. (See SECTION 1 DISASSEMBLY.)
(6) When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 1 DISASSEMBLY.)

2.1.2 Checking for proper mechanical operations

Enter the mechanism service mode when you want to operate the mechanism when no cassette is loaded. (See SECTION 1 DISASSEMBLY.)

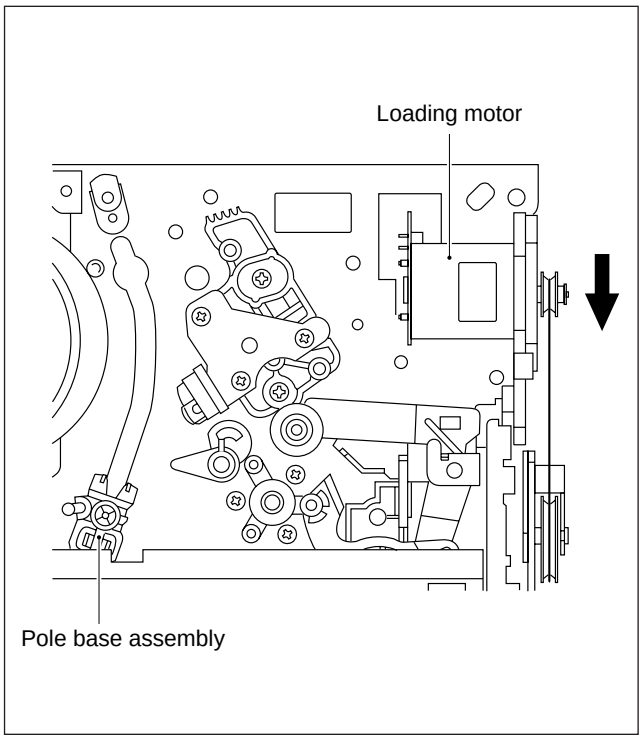


Fig. 2-1-3a

2.1.3 Manually removing the cassette tape

1. In case of electrical failures

If you cannot remove the cassette tape which is loaded because of any electrical failure, manually remove it by taking the following steps.

(1) Unplug the power cord plug from the power outlet.
(2) Refer to the disassembly procedure and perform the disassembly of the major parts before removing the drum assembly.
(3) Unload the pole base assembly by manually turning the loading motor of the mechanism assembly toward the front. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.2-1-3a.)
(4) Bring the pole base assembly to a pause when it reaches the position where it is hidden behind the cassette tape.
(5) Move the top guide toward the drum while holding down the lug (A) of the bracket retaining the top guide. Likewise hold part (B) down and remove the top guide.
Section (C) of the top guide is then brought under the cassette lid. Then remove the top guide by pressing the whole cassette tape down. (See Fig.2-1-3b.)
(6) Remove the cassette tape by holding both the slackened tape and the cassette lid.
(7) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

Note:

- ***For the disassembly procedure of the major parts and details of the precautions to be taken, see "SECTION 1 DISASSEMBLY".***

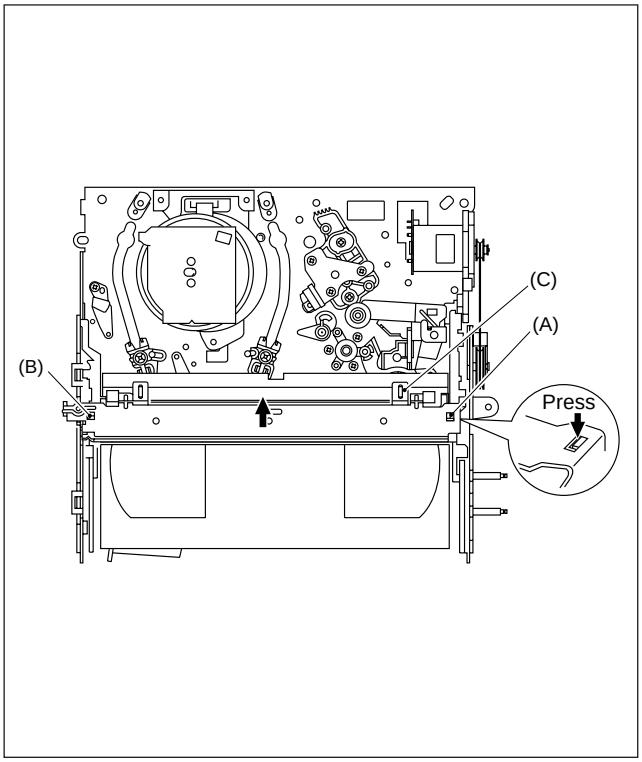


Fig. 2-1-3b

2. In case of mechanical failure

If you cannot remove the cassette tape which is loaded because of any mechanical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, front panel assembly and others so that the mechanism assembly is visible. (See SECTION 1 DISASSEMBLY.)
(2) While keeping the tension arm assembly of the mechanism assembly free from tension, pull the tape on the pole base assembly (supply or take-up side) out of the guide roller. (See Fig.2-1-3c.)
(3) Take the spring of the pinch roller arm assembly off the hook of the press lever assembly, and detach it from the tape. (See Fig.2-1-3d.)
(4) In the same way as in the electrical failure instructions in 2.1.3-1(5), remove the top guide.
(5) Raise the cassette tape cover. By keeping it in that position, draw out the cassette tape case from the cassette holder and take out the tape.
(6) By hanging the pinch roller arm assembly spring back on the hook, take up the slack of the tape into the cassette.

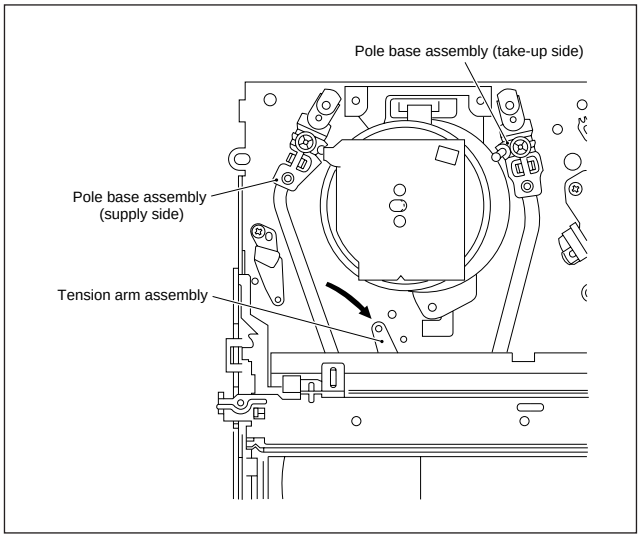


Fig. 2-1-3c

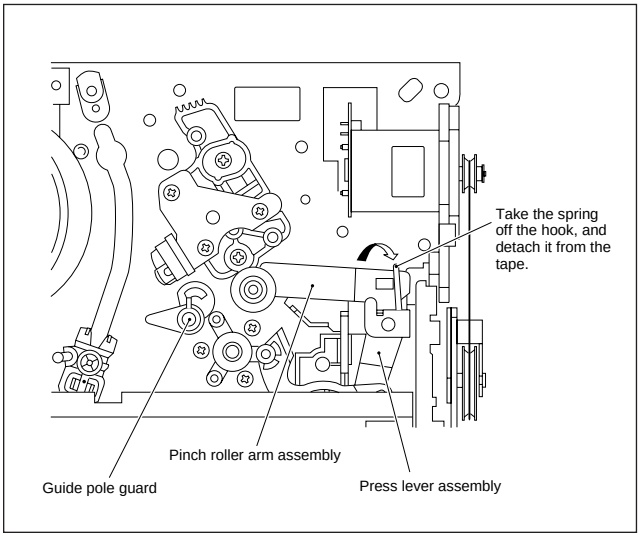
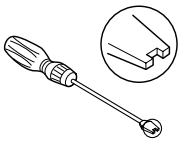
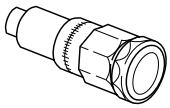
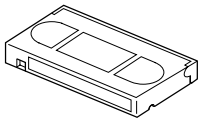
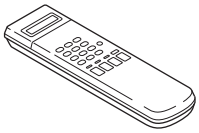
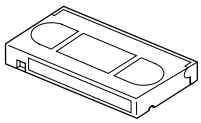
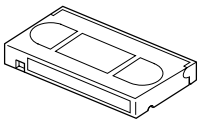


Fig. 2-1-3d

2.1.4 Jigs and tools required for adjustment

Roller driver PTU94002	A/C head positioning tool PTU94010	Torque gauge PUJ48075-2
		
Back tension cassette gauge PUJ48076-2	**Jig RCU PTU94023B**	
		
Alignment tape (SP, stairstep, PAL) MHPE	**Alignment tape (LP, stairstep, PAL) MHPE-L**	
		

2.1.5 Maintenance and inspection

1. Location of major mechanical parts

In this chapter, the two mechanism speeds are described by comparing the speeds of the standard type and the high-speed FF/REW type.
It is possible to distinguish between these two types of mechanism by the diameters of their capstan pulleys.
The capstan pulley diameter for the standard type is approx. 32 mm.
The capstan pulley diameter for the high-speed FF/REW type is approx. 43 mm.
For information on the different parts used in the two mechanism types, please refer to the “Replacement of major parts”.

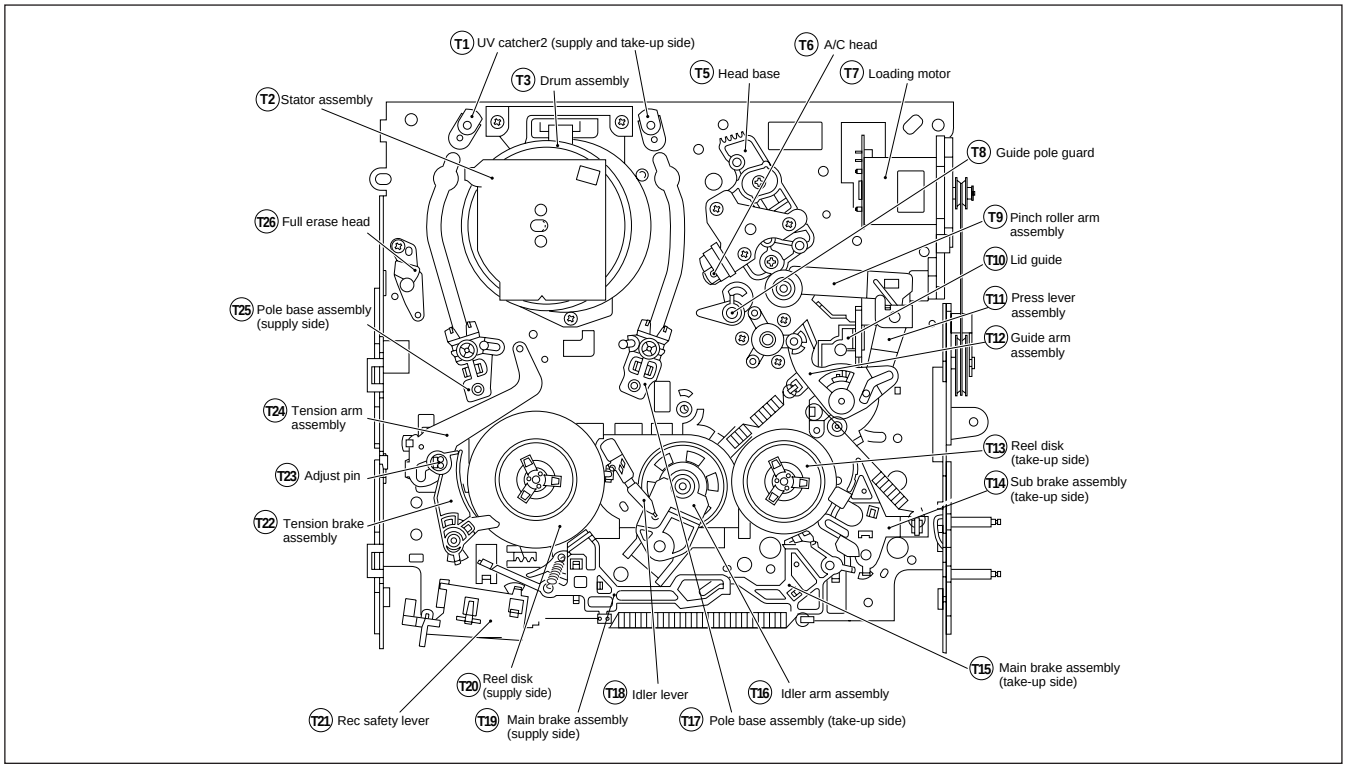

T1 UV catcher2 (supply and take-up side)
T6 A/C head
T3 Drum assembly
T5 Head base
T7 Loading motor
T2 Stator assembly
T8 Guide pole guard
T26 Full erase head
T9 Pinch roller arm assembly
T10 Lid guide
T25 Pole base assembly (supply side)
T11 Press lever assembly
T12 Guide arm assembly
T24 Tension arm assembly
T13 Reel disk (take-up side)
T23 Adjust pin
T14 Sub brake assembly (take-up side)
T22 Tension brake assembly
T15 Main brake assembly (take-up side)
T20 Reel disk (supply side)
T18 Idler lever
T16 Idler arm assembly
T21 Rec safety lever
T19 Main brake assembly (supply side)
T17 Pole base assembly (take-up side)

Fig. 2-1-5a Mechanism assembly top side

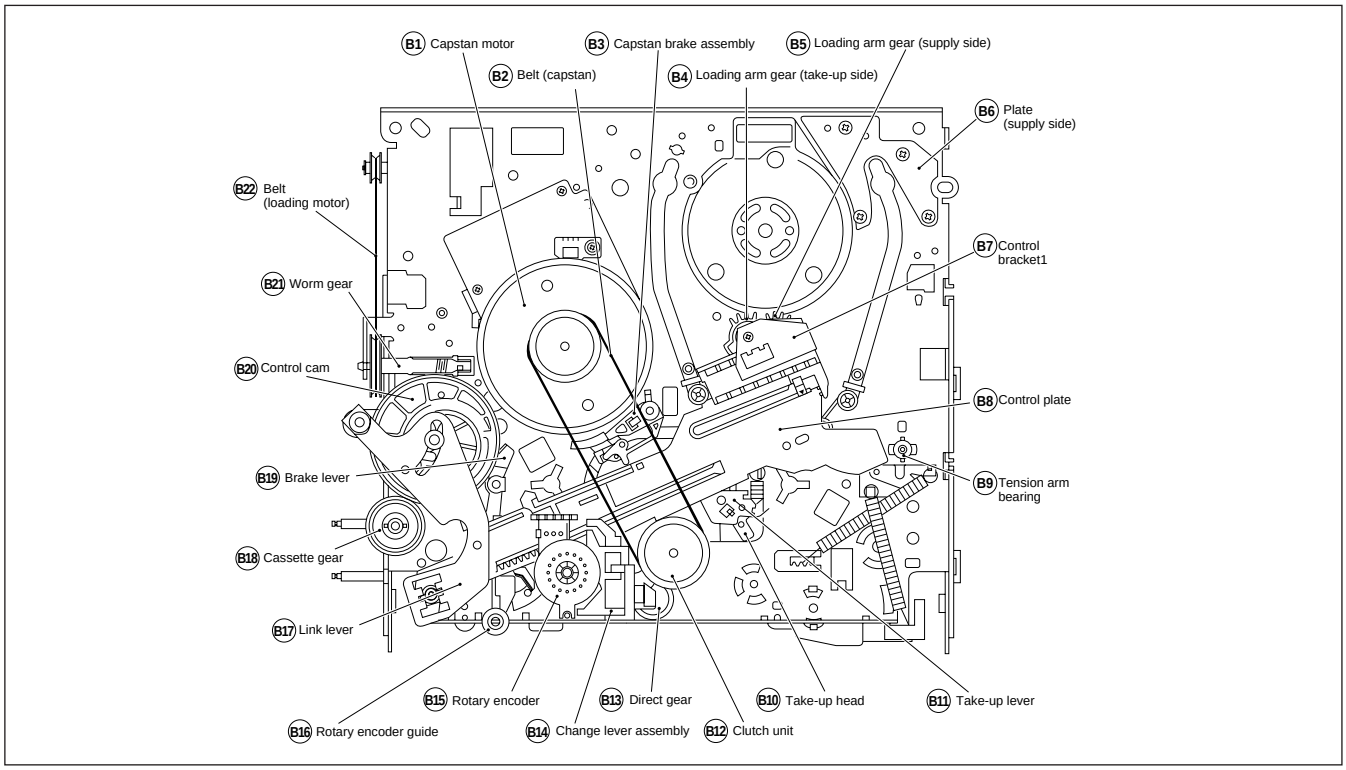


Fig. 2-1-5b Mechanism assembly bottom side

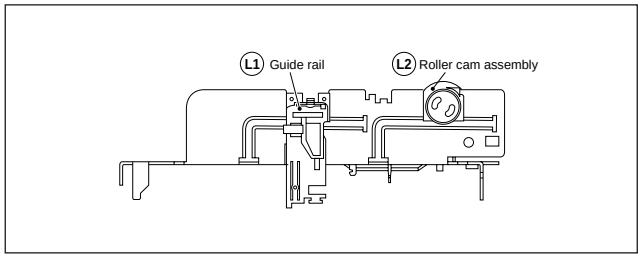


Fig. 2-1-5c Mechanism assembly left side

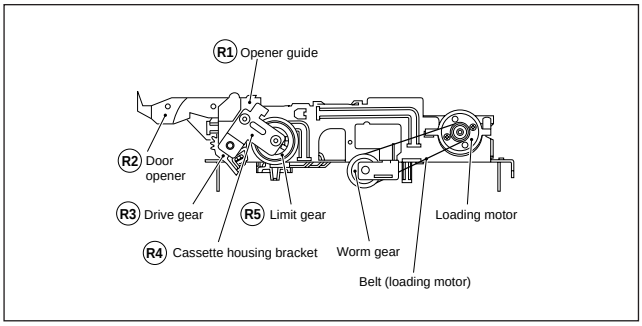


Fig. 2-1-5d Mechanism assembly right side

2. Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.

When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth or Kimu-wipe with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.

Note:

- ***Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.***

(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.

(3) After cleaning, make sure that the cleaned parts are completely dry before using the video tape.

3. Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

Note:

- ***See the "mechanism assembly" diagram of the parts list for the lubricating or greasing spots, and for the types of oil or grease to be used.***

4. Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assembly	★○	○
	A/C head	★○	★○
	Lower drum assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Capstan motor (Shaft)	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Capstan brake assembly		○
	Main brake assembly		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Clutch unit		○
	Worm gear		○
	Control plate		○
Other	Brush	★○	★○
	Tension brake assembly	○	○
	Rotary encoder		○

★ : Cleaning

○ : Inspection or replacement if necessary

Table 2-1-5a

5. Disassembling procedure table

The following table indicates the order in which parts are removed for replacement. To replace parts, remove them in the order of 1 to 18 as shown in the table. To install them, reverse the removal sequence.

The symbols and numbers preceding the individual part names represent the numbers in the "Location of major mechanical parts" table. Also, the "T", "B", and "T/B" on the right of each part name shows that the particular part is removed from the front, from the back, and from both sides of the mechanism, respectively.

Symbols and numbers	Removal parts / (Reference items) Replacement parts	Front (T)/Back (B) of mechanism	Number of removal steps	L1 Guide rail	L2 Roller cam assembly	R4 Cassette housing bracket	R1 Opener guide	— Relay gear	— Cassette holder assembly	R3 Drive gear	— Drive arm	T9 Pinch roller arm assembly	T12 Guide arm assembly	T11 Press lever assembly	T1 UV catcher2	B15 Rotary encoder	B12 Clutch unit	B14 Change lever assembly	B13 Direct gear	— Coupling gear	B17 Link lever	B21 Worm gear	B7 Control bracket1	B8 Control plate	B5 Loading arm gear (supply side)	B4 Loading arm gear (take-up side)	B11 Take-up lever	T14 Sub brake assembly (take-up side)	T15 Main brake assembly (take-up side)	T13 Reel disk (take-up side)	T22 Tension brake assembly	T24 Tension arm assembly	T18 Idler lever	B19 Brake lever (*1)
L1	2.2.3 Guide rail	T	1																															
L2	2.2.3 Roller cam assembly	T	1																															
R4	2.2.3 Cassette housing bracket	T	1																															
R1	2.2.3 Opener guide	T	2			1																												
R2	2.2.3 Door opener	T	3			1	2																											
—	2.2.3 Relay gear	T	3			1	2																											
R5	2.2.3 Limit gear	T	3			1	2																											
—	2.2.3 Cassette holder assembly	T	6	1	2	3	4	5																										
R3	2.2.3 Drive gear	T	4			1	2	3																										
—	2.2.3 Drive arm	T	8	1	2	3	4	5	6	7																								
T9	2.2.4 Pinch roller arm assembly	T	1																															
T12	2.2.5 Guide arm assembly	T	1																															
T11	2.2.5 Press lever assembly	T	3									1	2																					
T6	2.2.6 A/C head	T	1																															
T7	2.2.7 Loading motor	T	1																															
B1	2.2.8 Capstan motor	T/B	1																															
T1	2.2.9 UV catcher2	T	1																															
T17	2.2.9 Pole base assembly (take-up side)	T/B	2												1																			
T25	2.2.9 Pole base assembly (supply side)	T/B	2												1																			
B15	2.2.10 Rotary encoder	B	1																															
B12	2.2.11 Clutch unit	B	1																															
B14	2.2.12 Change lever assembly	B	3													1	2																	
B13	2.2.12 Direct gear	B	4													1	2	3																
—	2.2.12 Coupling gear	B	5													1	2	3	4															
—	2.2.12 Clutch gear	B	6													1	2	3	4	5														
B17	2.2.13 Link lever	B	1																															
B18	2.2.14 Cassette gear	B	2																		1													
B20	2.2.14 Control cam	B	2																		1													
B21	2.2.14 Worm gear	B	1																															
T10	- Lid guide	T/B	5									1	2	3								4												
B7	2.2.15 Control bracket1	B	1																															
B8	2.2.15 Control plate	B	6													1	2	3			4		5											
B5	2.2.16 Loading arm gear (supply side)	B	7													1	2	3			4		5	6										
B4	2.2.16 Loading arm gear (take-up side)	B	8													1	2	3			4		5	6	7									
—	2.2.16 Loading arm gear shaft	B	9													1	2	3			4		5	6	7	8								
B11	2.2.17 Take-up lever	T/B	7													1	2	3			4		5	6										
B10	2.2.17 Take-up head	T/B	8													1	2	3			4		5	6			7							
—	2.2.17 Control plate guide	T/B	8													1	2	3			4		5	6			7							
B3	2.2.18 Capstan brake assembly	T/B	7													1	2	3			4		5	6										
T14	2.2.19 Sub brake assembly(take-up side)	T/B	15	1	2	3	4	5	6	7	8					9	10	11			12		13	14										
T15	2.2.20 Main brake assembly(take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T19	2.2.20 Main brake assembly(supply side)	T/B	9	1	2	3	4	5	6	7	8																							
T13	2.2.20 Reel disk (take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T22	2.2.21 Tension brake assembly	T/B	9	1	2	3	4	5	6	7	8																							
T20	2.2.21 Reel disk (supply side)	T/B	10	1	2	3	4	5	6	7	8																					9		
T24	2.2.21 Tension arm assembly	T/B	10	1	2	3	4	5	6	7	8																					9		
B9	2.2.21 Tension arm bearing	T/B	10	1	2	3	4	5	6	7	8																					9		
T18	2.2.22 Idler lever	T/B	17	1	2	3	4	5	6	7	8					9	10	11			12		13	14								15	16	
T16	2.2.22 Idler arm assembly	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14								15	16	17
B19	- Brake lever (*1)	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				
B16	- Rotary encoder guide	T/B	19	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				18

Table 2-1-5b

Note:

- ***The parts with marked (*) have different types of mechanisms (standard type or high-speed FF/REW type).***
  - ***1: Uses the standard type mechanism only.***
  - ***2: Uses the high-speed FF/REW type mechanism only.***

2.2 Replacement of major parts

2.2.1 Before starting disassembling (Phase matching between mechanical parts)

The mechanism of this unit is closely linked with the rotary encoder and system controller circuits.
Since the system controller detects the status of mechanical operation in response to phases of the rotary encoder (internal switch positions), the mechanism may not operate properly unless such parts as the rotary encoder, control plate, loading arm gear, control cam, cassette gear, limit gear, relay gear and drive gear are installed in their correct positions.
Especially, this model is not provided with any cassette housing assembly, so that cassette loading and unloading must be accomplished by operation of the cassette holder assembly. The latter is in turn driven by such parts as the drive gear, relay gear and limit gear. Exercise enough care, therefore, to have the phases of all this gear matching one another. (For information on phase matching of the mechanism, see the instructions on how to install individual parts.)
This unit is provided with a mechanism assembly mode. It is therefore necessary to enter this mode for assembling and disassembling procedures.
This mode is usually not in use, manually set it when it is required.

2.2.2 How to set the “Mechanism assembling mode”

Remove the mechanism assembly and place it bottom side up. (See SECTION 1 DISASSEMBLY.) Turn the worm gear toward the front so that the guide hole of the control cam is brought into alignment with the hole at the mechanism assembly chassis. This position renders the mechanism assembling mode operational. Make sure that the control plate is located in alignment with the mark E. (See Fig.2-2-2a.)

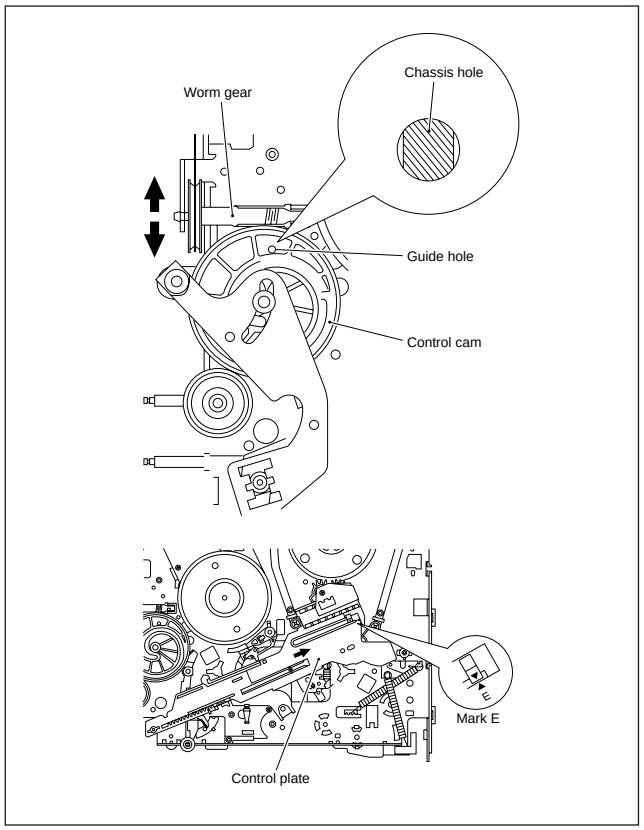


Fig. 2-2-2a

2.2.3 Cassette holder assembly

1. How to remove

(1) Remove the guide rail and roller cam assembly. (See Fig.2-2-3a.)
(3 lugs on the guide rail and one lug on the roller cam assembly)

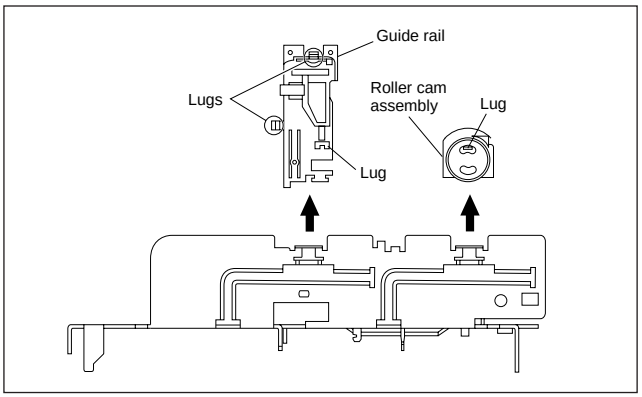


Fig. 2-2-3a

(2) Remove the two slit washers and remove the cassette housing bracket. (See Fig.2-2-3b.)
(3) Remove the opener guide, spring(A), door opener, relay gear and limit gear. (See Fig.2-2-3b.)

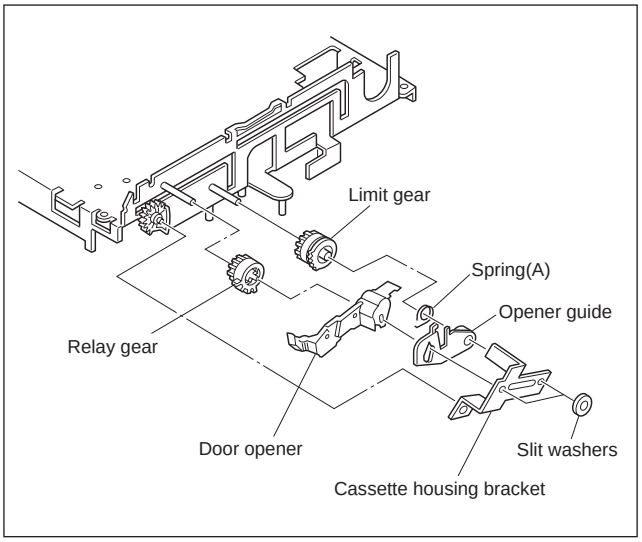


Fig. 2-2-3b

(4) While swinging the lock levers (R) and (L) of the cassette holder assembly toward the front, slide the cassette holder assembly until its legs come to where the guide rail and the roller cam assembly have been removed (so that the drive arm is upright). (See Fig.2-2-3c.)

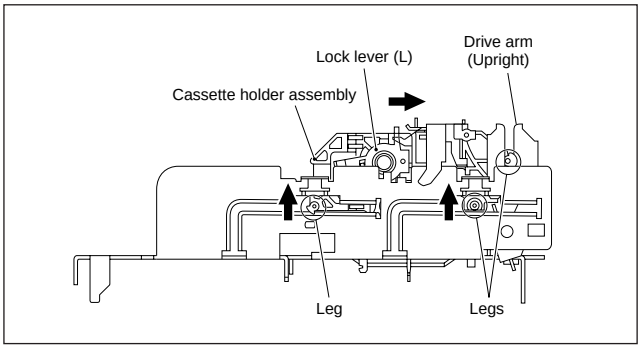


Fig. 2-2-3c

(5) While holding the left side of the cassette holder, lift the cassette holder assembly so that the three legs on the left side are all released. Then pull the legs (A) and (B) on the right side out of the rail and also pull up the leg(C). (See Fig.2-2-3d and Fig.2-2-3e.)
(6) Draw out the drive gear, and remove the drive arm.

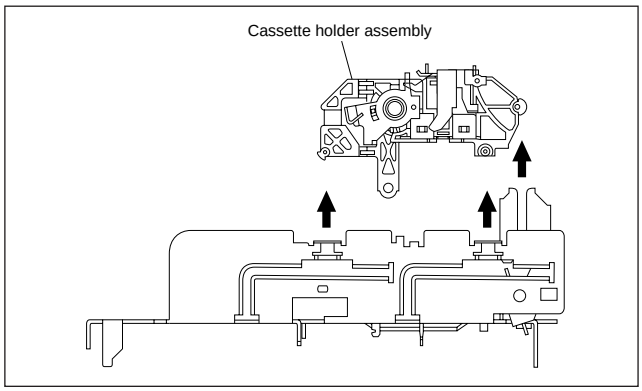


Fig. 2-2-3d

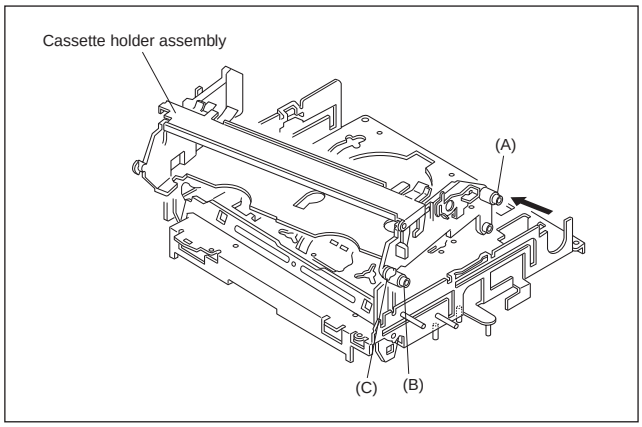


Fig. 2-2-3e

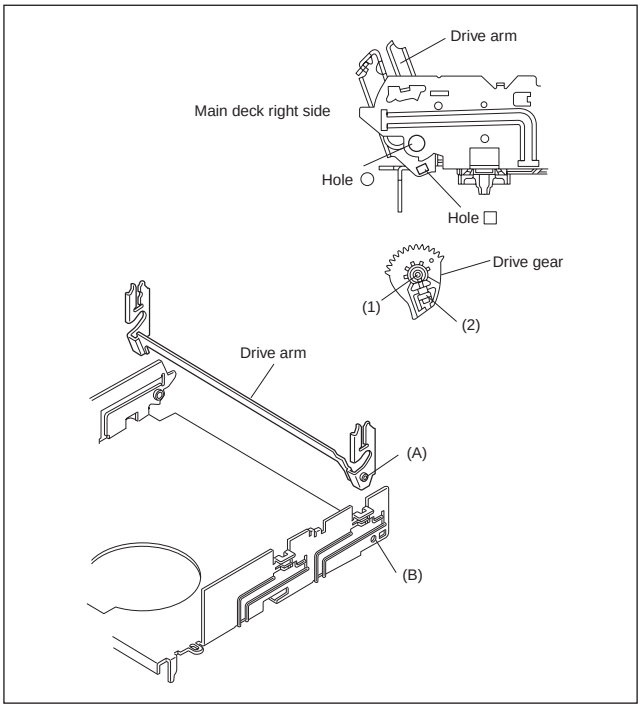


Fig. 2-2-3f

2. How to install (Phase matching)
(1) Insert the section (A) of the drive arm into the section (B) of the main deck.
(2) Insert the section (1) of the drive gear into the round hole, and the section (2) into the square hole on the drive arm. (See Fig.2-2-3f.)
(3) Hold the drive arm upright and fit the leg (C) on the right side of the cassette holder assembly into the groove. (See Fig.2-2-3g.)
(4) While swinging the lock lever (R) of the cassette holder assembly toward the front, put the legs (A) and (B) into the rail. (See Fig.2-2-3g.)
(5) Drop the three legs on the left side of the cassette holder assembly into the groove at one time. (See Fig.2-2-3h.)
(6) Slide the whole cassette holder assembly toward the front to bring it to the eject end position.
(7) Install the limit gear so that the notch on the outer circumference of the limit gear is brought into alignment with the guide hole on the main deck. (See Fig.2-2-3i.)
(8) Install so that the notch on the periphery of the relay gear is aligned with the notch of the main deck and that hole A of the relay gear is aligned with the hole A of the limit gear and that hole B of the relay gear is aligned with the hole B of the drive gear. (See Fig.2-2-3i.)
(9) Install the door opener, opener guide, spring(A) and cassette housing bracket and fasten the two slit washers.

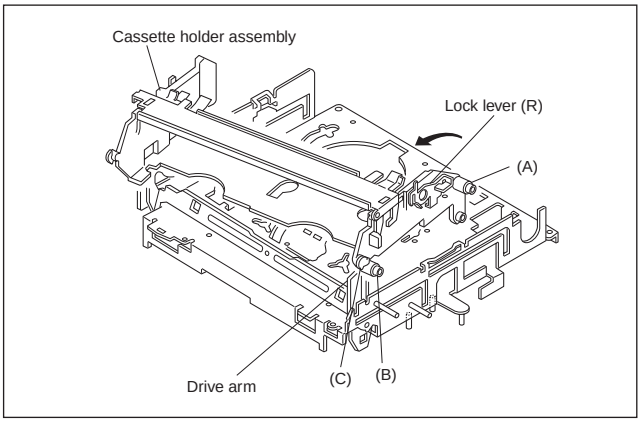


Fig. 2-2-3g

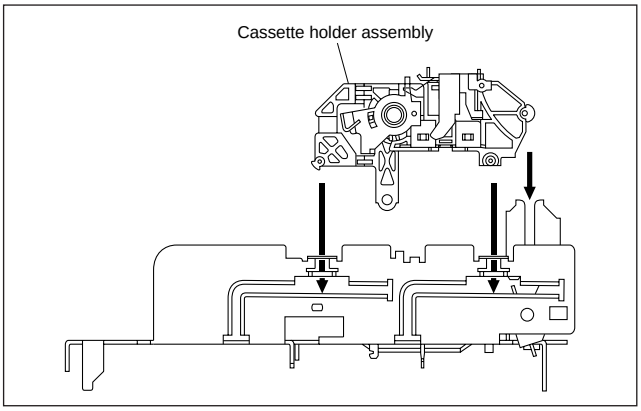


Fig. 2-2-3h

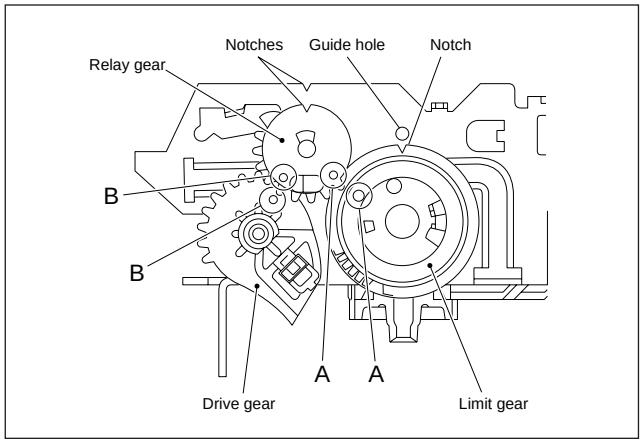


Fig. 2-2-3i

2.2.4 Pinch roller arm assembly

1. How to remove

(1) Remove the spring from the hook of the press lever assembly.
(2) Remove the slit washer and remove the pinch roller seat 2. (See Fig.2-2-4a.)
(3) Remove the pinch roller arm assembly by pulling it up.

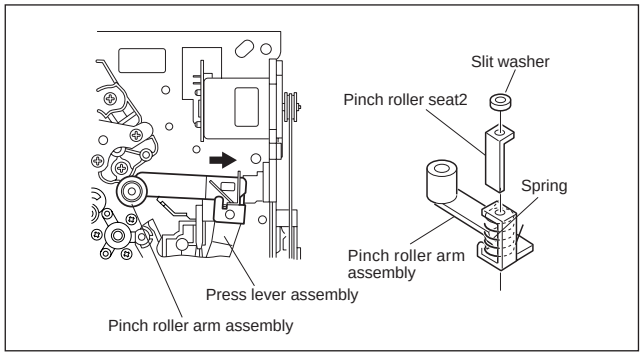


Fig. 2-2-4a

2.2.5 Guide arm assembly and press lever assembly

1. How to remove

(1) Remove the spring and expand the lug of the lid guide in the arrow-indicated direction. Then remove the guide arm assembly by pulling it up.
(2) Remove the press lever assembly by pulling it up. (See Fig.2-2-5a.)

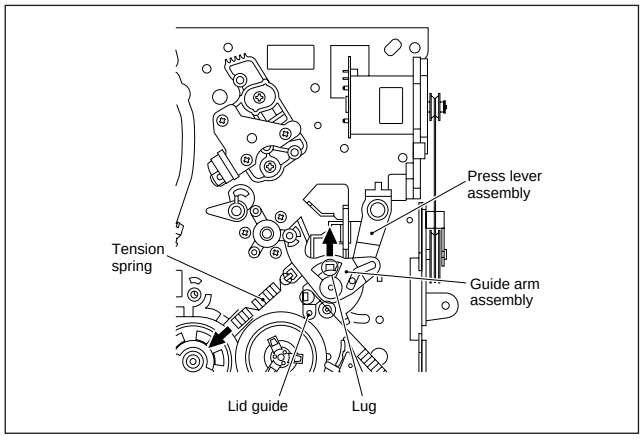


Fig. 2-2-5a

2.2.6 A/C head

1. How to remove

(1) Remove the two screws (A) and remove the A/C head together with the head base.
(2) When replacing only the A/C head, remove the three screws (B) while controlling the compression spring.

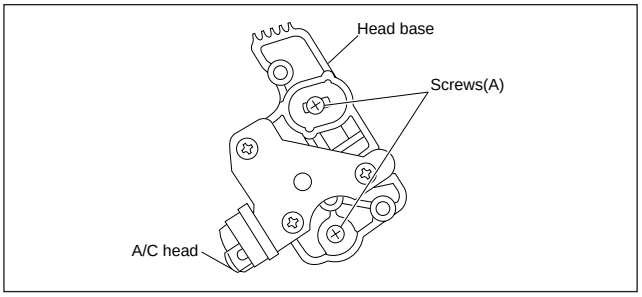


Fig. 2-2-6a

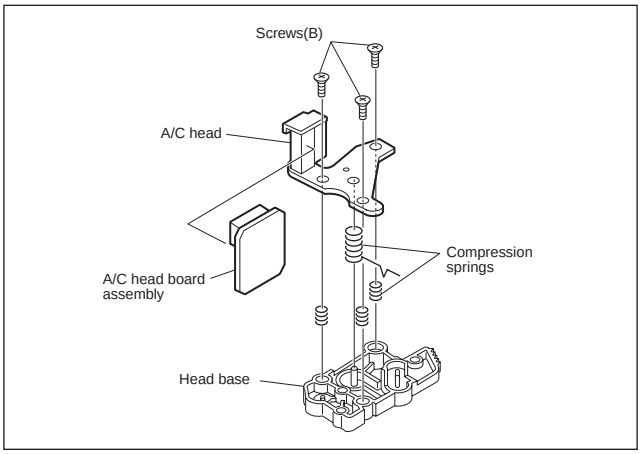


Fig. 2-2-6b

2. How to install

(1) To make the post-installation adjustment easier, set the temporary level as indicated in Fig.2-2-6c. Also make sure that the screw center (centre) is brought into alignment with the center (centre) position of the slot.

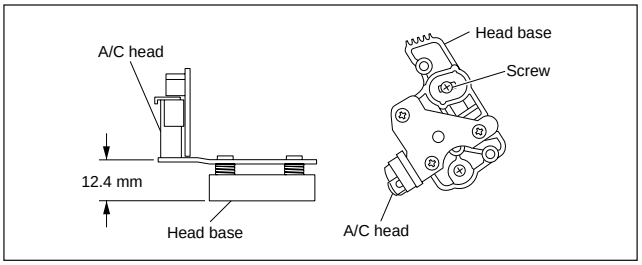


Fig. 2-2-6c

2.2.7 Loading motor

1. How to remove

(1) Remove the belt wound around the worm gear.
(2) Open the two lugs of the motor guide and remove the loading motor, loading motor board assembly and motor guide altogether by pulling them up.
(3) When replacing the loading motor board assembly, take care with the orientation of the loading motor. (Install so that the loading motor label faces upward.)
(4) When the motor pulley has been replaced, choose the fitting dimension as indicated in Fig.2-2-7a.

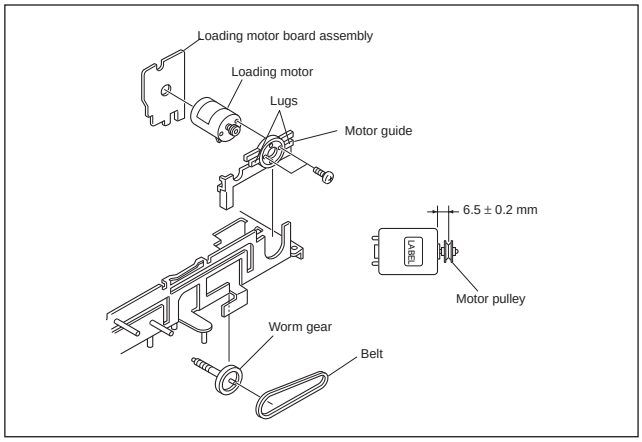


Fig. 2-2-7a

2.2.8 Capstan motor

1. How to remove

(1) Remove the belt (capstan) on the mechanism assembly back side.
(2) Remove the three screws (A) and remove the capstan motor.

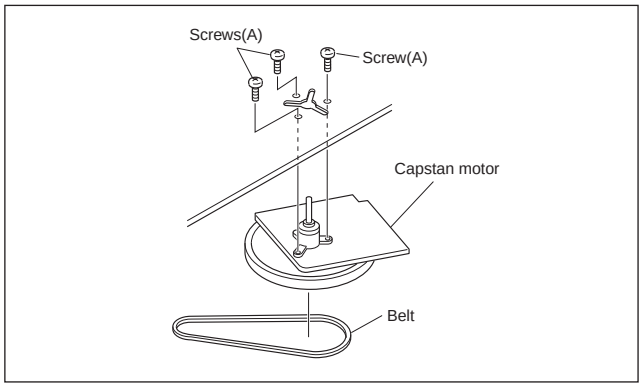


Fig. 2-2-8a

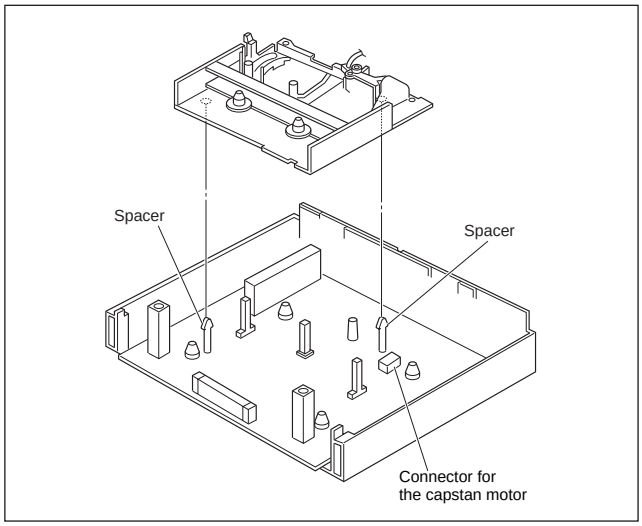


Fig. 2-2-8b

2. How to install (Centering the mounting position)

When the capstan motor has once been removed and then reinstalled out of the initial correct position in the rotational direction, the capstan motor current may be unstable during operation in high or low temperatures. This may result in greater Wow & Flutter and occasionally in power breakdown because of current over - load. Install the capstan motor while following the procedure given below.
(The capstan motor is centrally located when the unit is shipped from the factory.)

(1) Provisionally tighten the three screws (A) securing the capstan motor.
(2) Install the mechanism assembly to which the capstan motor is provisionally fastened on the bottom chassis which incorporates the Main board assembly. (No need to tighten the screws for mounting the mechanism.)
Make sure that all the connectors for the mechanism assembly and the Main board assembly are correctly installed as indicated in Fig. 2-2-8b.
(3) Making sure that the connector for the capstan motor is correctly mounted, and securely tighten the three screws (A).

Note:

- ***When the capstan motor has been replaced with a new one, perform recording in the EP(or LP) mode for at least 2 minutes at normal temperatures immediately before starting the FF/REW or SEARCH operations (Aging).***

2.2.9 Pole base assembly (supply or take-up side)

1. How to remove

(1) Remove the UV catcher 2 on the removal side by loosening the screw (A).
(2) Remove the pole base assembly on the supply side from the mechanism assembly by loosening the screw (B) on the mechanism assembly back side and sliding the pole base assembly toward the UV catcher 2.
(3) As for the pole base assembly on the take-up side, turn the pulley of the loading motor to lower the cassette holder because the screw (B) is hidden under the control plate. (See the “Procedures for Lowering the Cassette holder assembly” of 1.3 DISASSEMBLY/ASSEMBLY METHOD.) Further turn the motor pulley to move the cassette holder until the screw (B) is no longer under the control plate (in the half-loading position). Then remove it as done for the supply side by removing the screw (B).

Note:

- ***After reinstalling the Pole base assembly and the UV catcher2, be sure to perform compatibility adjustment.***

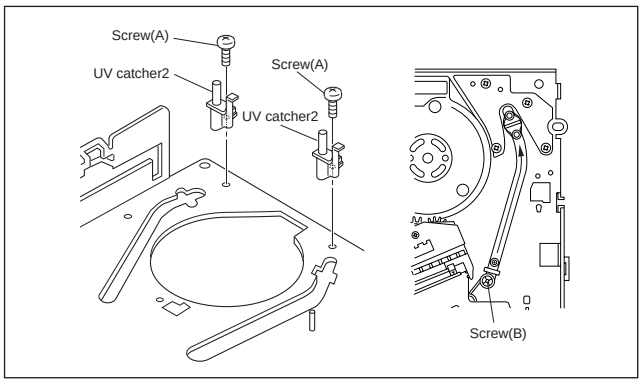


Fig. 2-2-9a

2.2.10 Rotary encoder

1. How to remove

(1) Remove the screw (A) and remove the rotary encoder by pulling it up. (See Fig. 2-2-10a.)

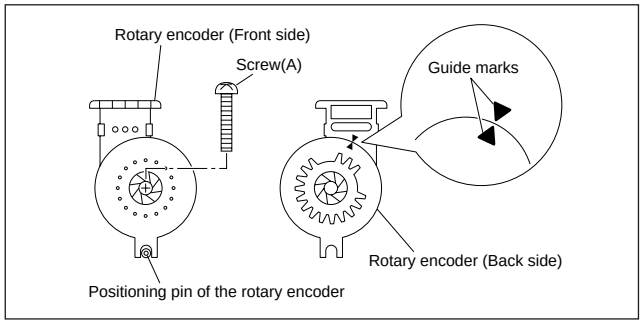


Fig. 2-2-10a

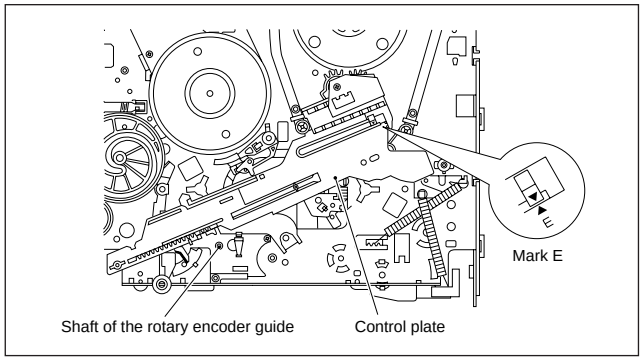


Fig. 2-2-10b

2. How to install (Phase matching)

(1) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft and bring the guide marks on the rotary encoder into alignment as indicated in Fig.2-2-10a. (See Fig. 2-2-10a and Fig. 2-2-10b.)

(2) Turn over the rotary encoder with its guide marks kept in alignment and install it by fitting on the shaft of the rotary encoder guide and the positioning pin.

(3) Tighten the screw (A) to complete the installation.

2.2.11 Clutch unit

(1) Remove the belt wound around the capstan motor and the clutch unit.

(2) Remove the slit washer and remove the clutch unit.

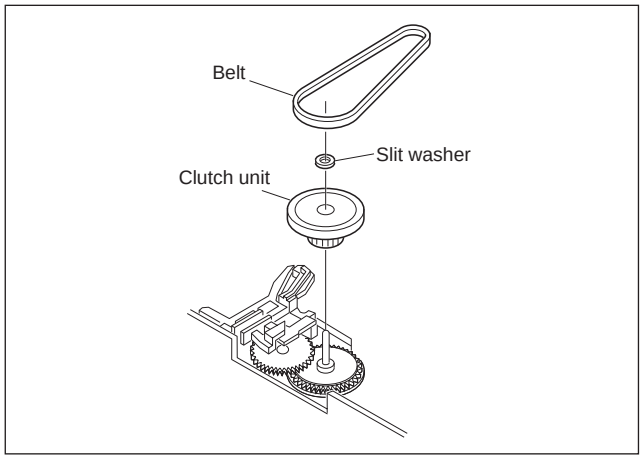


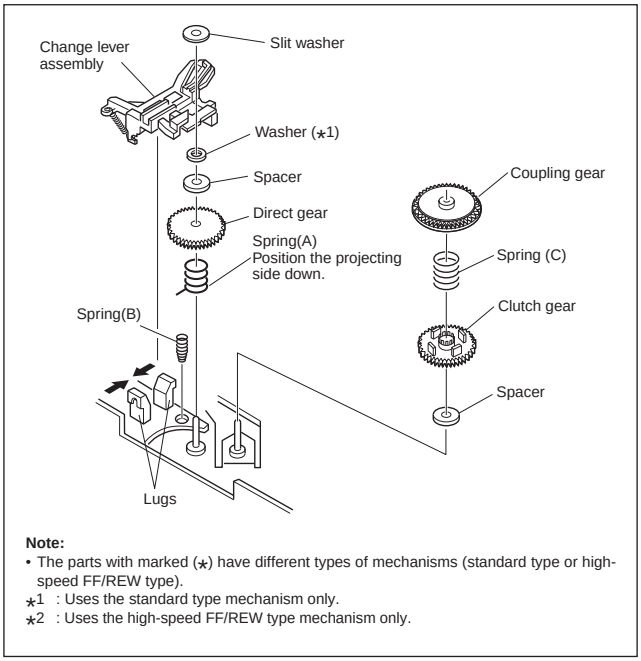
Fig. 2-2-11a

2.2.12 Change lever assembly, direct gear, clutch gear and coupling gear

1. How to remove

(1) Release the two lugs of the rotary encoder guide in the arrow-indicated direction and remove the change lever assembly.

(2) Remove the slit washer retaining the direct gear and remove the latter.
Take care so as not to lose the washer and spring. (See Fig.2-2-12a.)



Note:
- The parts with marked (*) have different types of mechanisms (standard type or high-speed FF/REW type).

*1 : Uses the standard type mechanism only.
*2 : Uses the high-speed FF/REW type mechanism only.

Fig. 2-2-12a

2. How to install

(1) Install the clutch gear, spring (A), spring (C), direct gear, spacer and others to the individual shafts of the main deck, and finally the slit washer. (See Fig.2-2-12a.)

(2) Let the spring (B) drops into the rotary encoder guide hole and install the change lever assembly.(Take care not to mistake a direction of the spring.) The point is to slightly lift the coupling gear and catch it from the both sides with the assembly. (See Fig.2-2-12b.)

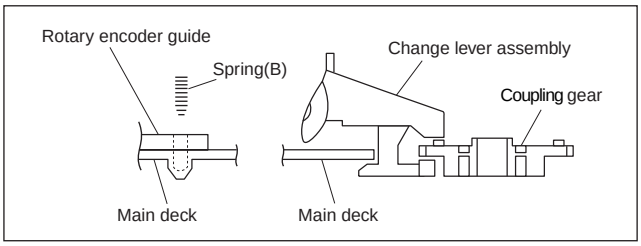


Fig. 2-2-12b

2.2.13 Link lever

1. How to remove

(1) Remove the two slit washers.
(2) Remove the link lever by lifting it from the shaft retained by the slit washers. Then swing the link lever counterclockwise and remove it from the locking section of the control plate.

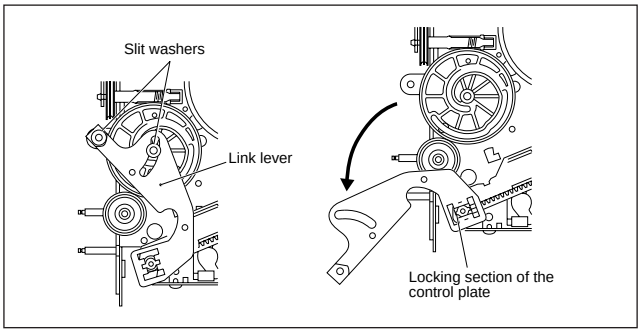


Fig. 2-2-13a

2. How to install (Phase matching)

(1) Slide the control plate so that its mark E is aligned with the mark ▼ on the loading arm gear shaft. (See Fig.2-2-13b.)
(2) Rotate the worm gear until the guide hole of the control cam is aligned exactly with the guide hole of the main deck. (See Fig.2-2-13c.)
(3) Insert the link lever into the locking section of the control plate. (See Fig.2-2-13a.)
(4) Rotate the link lever clockwise so that it is installed on the shafts in the center (centre) and on the left of the control cam.
(5) Fasten the slit washers at these two points.

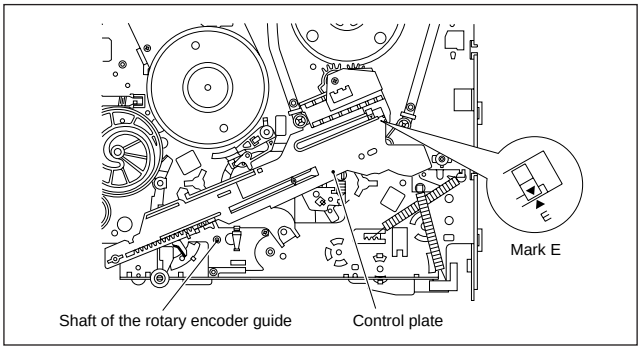


Fig. 2-2-13b

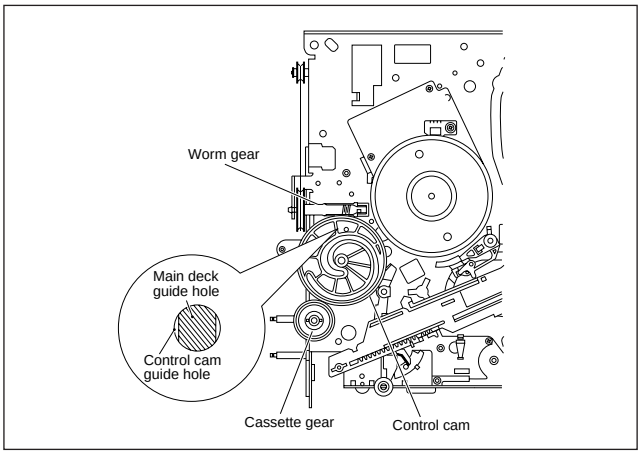


Fig. 2-2-13c

2.2.14 Cassette gear, control cam and worm gear

1. How to remove

(1) Remove the control cam by lifting it.
(2) Open the two lugs of the cassette gear outward and pull the latter off.
(3) Remove the belt wound around the worm gear and the loading motor.
(4) Open the lug of the lid guide outward and remove the worm gear.

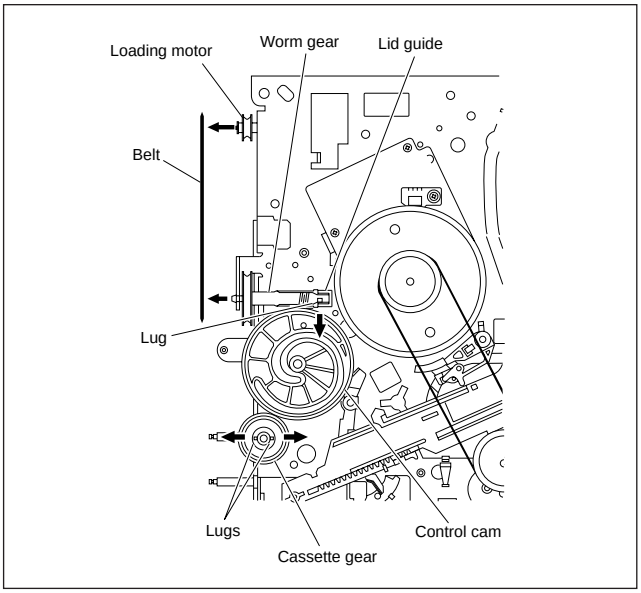


Fig. 2-2-14a

2.2.15 Control plate

1. How to remove

(1) Remove the screw (A) retaining the control bracket 1 and remove the latter.
(2) Slide the control plate as indicated by the arrow and remove the control plate. (See Fig.2-2-15a.)

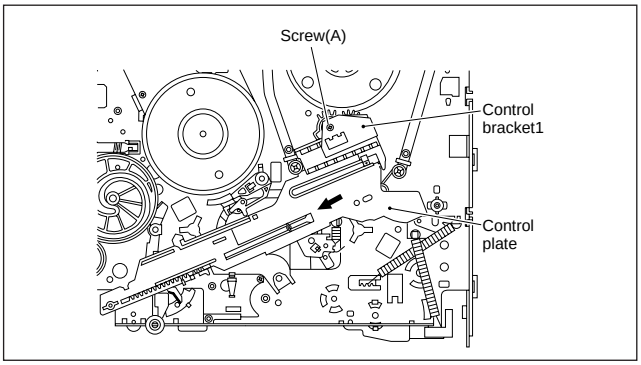


Fig. 2-2-15a

2. How to install (Phase matching)

(1) Adjust the position of the idler arm assembly pin as indicated in Fig.2-2-15b (to the left of center (centre) of the R section).
(2) Bring the guide hole of the take-up lever into alignment with the hole at the control plate guide and fix the position by inserting a 1.5 mm hexagonal wrench.

(3) Install the control plate so that the section A of the loading arm gear shaft fits into the hole (A) of the control plate, the section B of the control plate guide into the hole (B), and the control plate comes under the section C of the rotary encoder guide and the section D of the loading arm gear shaft while press-fit the pole base assmebly (supply side) as indicated by the arrow. It is important that the tension arm assembly shaft is positioned closer toward you than the control plate. (See Fig.2-2-15c.)
(4) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft. (See Fig.2-2-15c.)
(5) Pull off the hexagonal wrench for positioning.

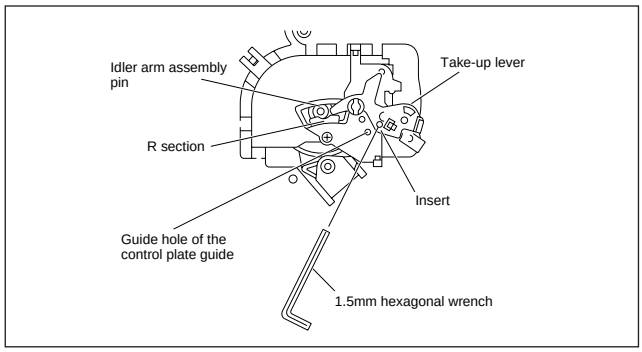


Fig. 2-2-15b

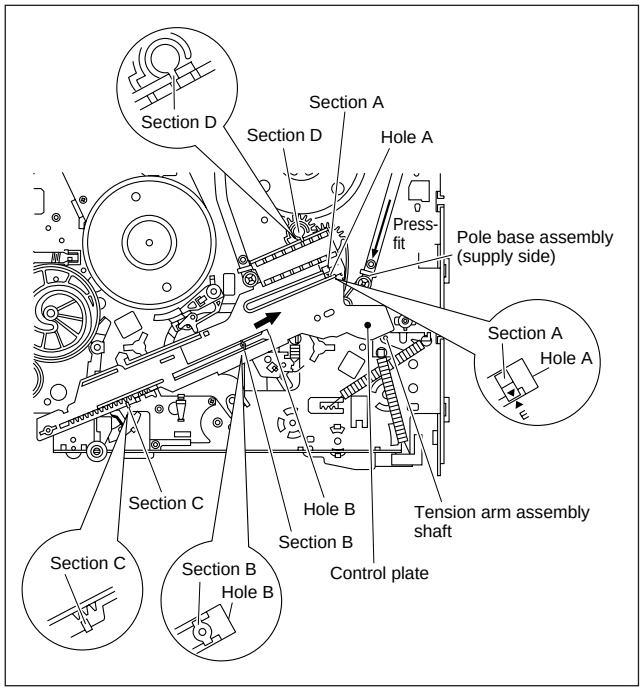


Fig. 2-2-15c

2.2.16 Loading arm gear (supply or take-up side) and loading arm gear shaft

1. How to remove

(1) Remove the loading arm gear (supply side) by loosening the screw (A). (See Fig. 2-2-16a.)
(2) Remove the screw (B) and remove the torsion arm from the pole base assembly (take-up side). (See Fig.2-2-16a.)
(3) Turn the loading arm gear (take-up side) clockwise so that the notch of the loading arm gear (take-up side) is in alignment with the projection of the loading arm gear shaft and lift it.
Likewise, turn the loading arm counterclockwise so that the notch is in alignment with the projection and remove the loading arm gear (take-up side). (See Fig.2-2-16a and Fig. 2-2-16b.)
(4) When removing the loading arm gear shaft, be sure of first removing the screw retaining the drum assembly (on the back side of the loading arm gear shaft). Then remove the screw (C) and remove the loading arm gear shaft by sliding it.

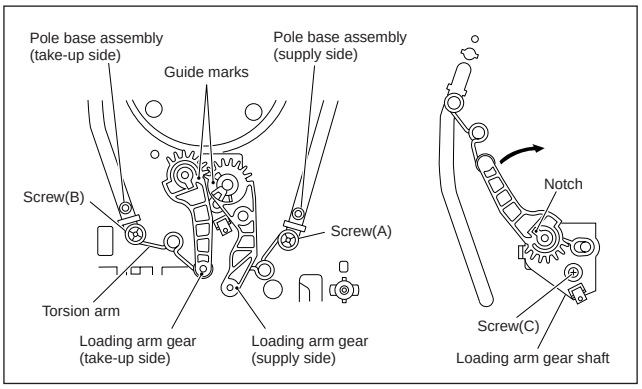


Fig. 2-2-16a

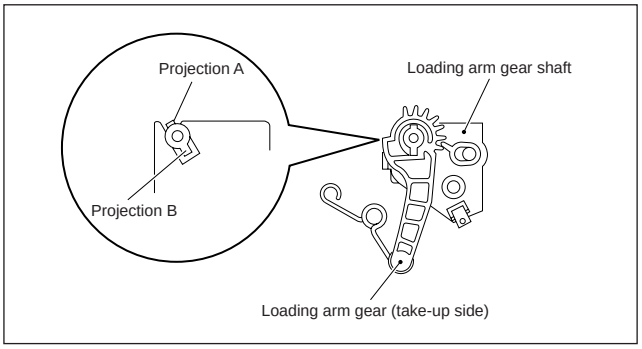


Fig. 2-2-16b

2. How to install

(1) Align the notch of the loading arm gear (take-up side) to the projection B of the loading arm gear shaft and slip it over. Then rotate it clockwise for alignment with the projection A and slip it down to the bottom. (See Fig.2-2-16b.)
(2) Then turn the loading arm gear (take-up side) counterclockwise. Hang the torsion arm on the pole base assembly (take-up side) and tighten the screw (B).
(3) Install the loading arm gear (supply side) so that the guide mark of the loading arm gear (take-up side) is in alignment with the guide mark of the loading arm gear (supply side). Then hang the torsion arm on the pole base assembly (supply side) and tighten the screw (A). (See Fig.2-2-16a.)

2.2.17 Take-up lever, take-up head and control plate guide

(1) Remove the spring of the take-up lever from the main deck.
(2) Remove the lug (A) of the take-up lever from the main deck and pull out the take-up lever and the take-up head together.
(3) Remove the screw (A).
(4) Align the idler arm assembly pin in the center (centre) of the R section of the control plate guide, remove the control plate guide lugs (B) and (C) from the main deck, and remove the control plate guide.

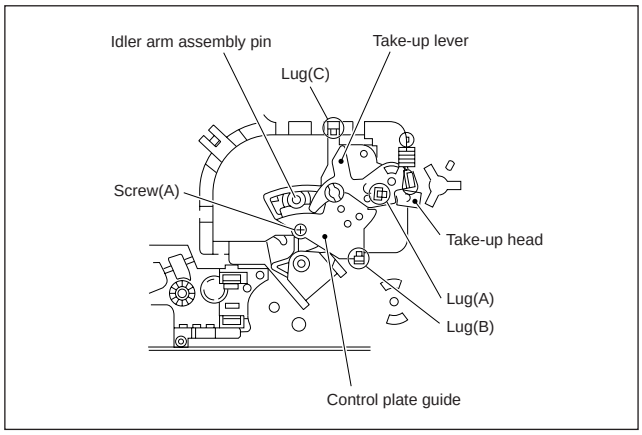


Fig. 2-2-17a

2.2.18 Capstan brake assembly

1. How to remove

(1) Move the lug (A) of the capstan brake assembly in the arrow-indicated direction so that it comes into alignment with the notch of the main deck. (See Fig. 2-2-18a.)
(2) Remove the lug (B) of the capstan brake assembly from the main deck and remove the capstan brake assembly.

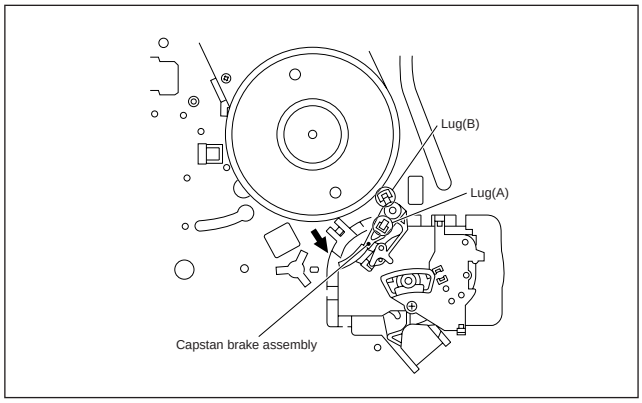


Fig. 2-2-18a

2.2.19 Sub brake assembly (take-up side)

1. How to remove

(1) Remove the spring attached to the lid guide and sub brake assembly (take-up side).
(2) Bring the lug (A) of the sub brake assembly (take-up side) into alignment with the notch of the main deck.
(3) Remove the lugs (B) and (C) of the sub brake assembly (take-up side) from the main deck and remove the sub brake assembly (take-up side).

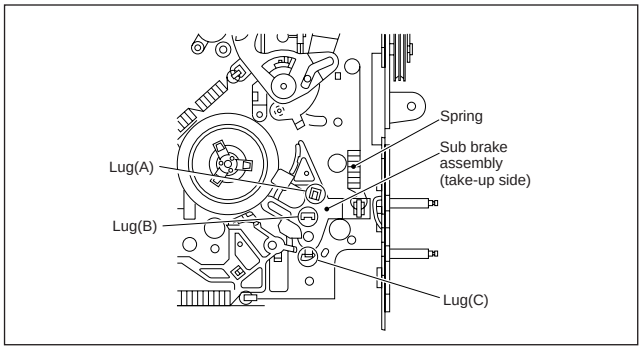


Fig. 2-2-19a

2.2.20 Main brake assembly (take-up side), reel disk (take-up side) and main brake assembly (supply side)

1. How to remove

(1) Move the main brake assembly (take-up side) in the arrow-indicated direction and remove the reel disk (take-up side).
(2) Remove the spring attached to the main brake assembly.
(3) Remove the lug (A) of the main brake assembly (take-up side) and pull out the lug (B) after bringing it into alignment with the main deck notch.
(4) Remove the lugs (C), (D) and (E) of the main brake assembly (supply side) from the main deck and pull them off. (See Fig.2-2-20a.)
(5) When installing the main brake assembly (take-up side), slide the brake lever in the direction as indicated by the arrow to prevent it from hitting the projection of the main brake assembly (take-up side). (See Fig.2-2-20b.)

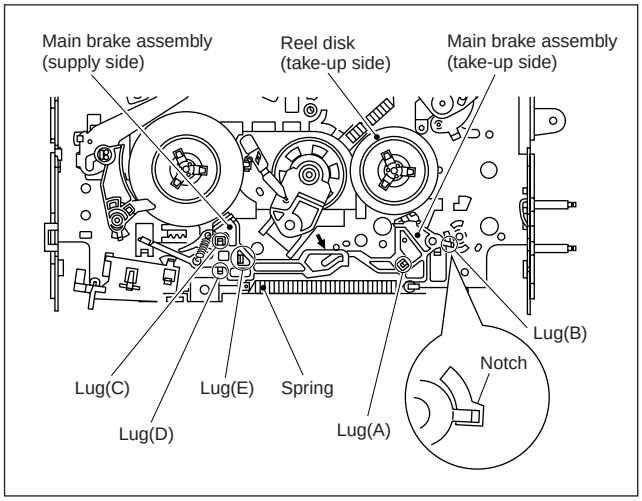
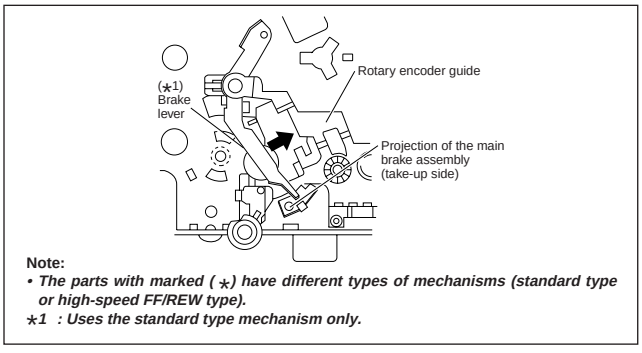


Fig. 2-2-20a



Note:
• The parts with marked (★) have different types of mechanisms (standard type or high-speed FF/REW type).
★1 : Uses the standard type mechanism only.

Fig. 2-2-20b

2.2.21 Tension brake assembly, reel disk (supply side) and tension arm assembly

1. How to remove

(1) Remove the three lugs of the tension brake assembly from the main deck and pull them off.
(2) Remove the reel disk (supply side) by loosening in the arrow-indicated direction the main brake assembly (supply side).
(3) Remove the tension spring on the back of the main deck. Then release the lug of the tension arm bearing in the arrow-indicated direction and draw out the tension arm assembly. (See Fig. 2-2-21a.)

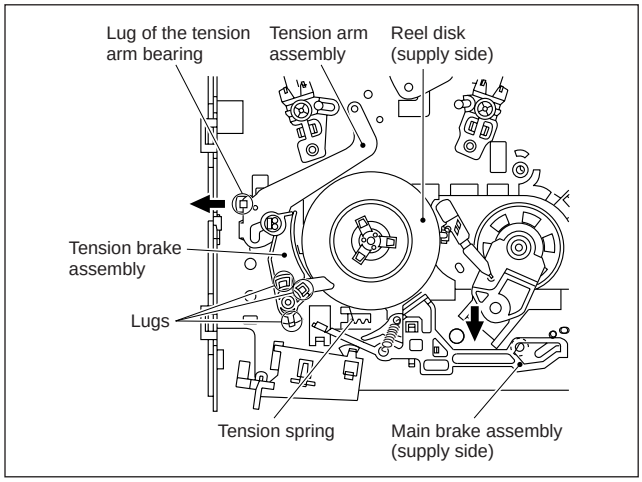


Fig. 2-2-21a

2.2.22 Idler lever, idler arm assembly

1. How to remove

(1) Remove the lug of the idler lever from the main deck and remove the hook fitted in the idler arm assembly hole by lifting it.
(2) Remove the slit washer and pull out the idler arm assembly.

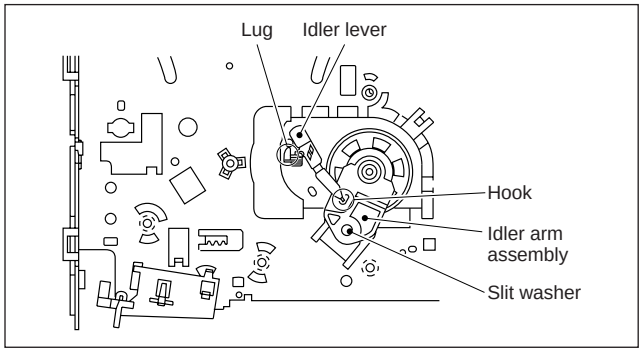


Fig. 2-2-22a

2.2.23 Stator assembly

(1) Remove the flat cable.
(2) Remove the two screws (A), (B) and remove the lug wire.
(3) Remove the stator assembly by lifting in the arrow-indicated direction. (Take care that the brush spring does not jump out.)

Notes:

- ***Be careful not to lose the brush and spring.***
- ***There are some models that do not use the lug wire. Refer to the parts list for these models.***
- ***When tightening the screw (B), place the caulked part of the lug terminal near to the shaft of the drum and then tighten it.***
- ***After installation, be sure to perform the switching point adjustment according to the electrical adjustment procedure.***

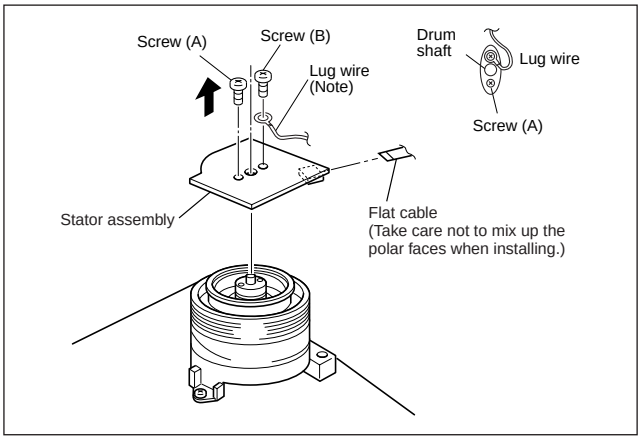


Fig. 2-2-23a

2.2.24 Rotor assembly

1. How to remove

(1) Remove the stator assembly.
(2) Remove the two screws (B) and remove the rotor assembly.

2. How to install

(1) Match the phases of the upper drum assembly and the rotor assembly as indicated in Fig.2-2-24a.
(2) Place the upper drum assembly hole (a) over the rotor assembly holes (b) (with three holes to be aligned) and tighten the two screws (B). (See Fig.2-2-24a.)

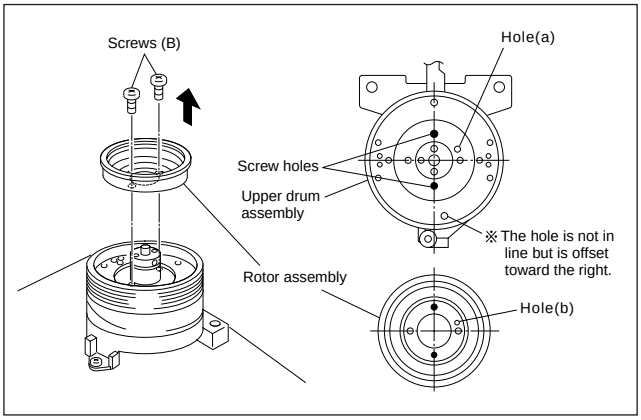


Fig. 2-2-24a

2.2.25 Upper drum assembly

Notes:

- ***To replace the upper drum assembly only may not be possible with some models. For upper drum assembly replacement, refer to the parts list. (When the parts number of the upper drum assembly is not listed on the parts list, then this cannot be replaced.)***
- ***When replacement is required, control the up- down movement of the brush. Never apply grease.***
- ***When replacing the upper drum assembly, replace it the together with the washer.***

1. How to remove

(1) Remove the stator assembly and rotor assembly.
(2) Loosen the screw of the collar assembly using a 1.5 mm hexagonal wrench and remove the collar assembly. Also remove the brush, spring and cap at one time.
(3) Remove the upper drum assembly and remove the washer using tweezers.

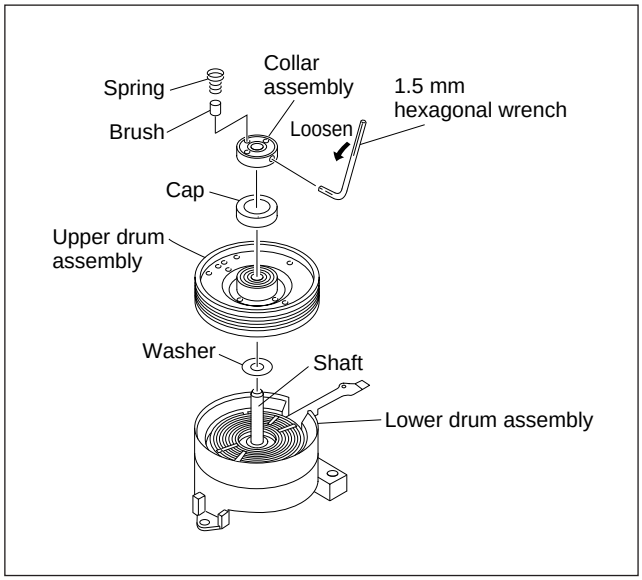


Fig. 2-2-25a

2. How to install

(1) Clean the coil parts of the lower drum assembly and the newly installed upper drum assembly with an air brush in advance. (See Fig.2-2-25b.)
(2) Install a new washer and upper drum assembly on the drum shaft. (See Fig.2-2-25a.)
(3) Install the cap to the upper drum assembly.
(4) Position the collar assembly as indicated in Fig.2-2-25c while controlling its up- down movement.
(5) Secure the collar assembly in position with a hexagonal wrench while pressing its top with the fingers.
(6) After installation, gently turn the upper drum assembly with your hand to make sure that it turns normally. Then install the brush and the spring.
(7) Install the rotor assembly and stator assembly according to Fig 2-2-23a and 2-2-24a.
(8) When installation is complete, clean the upper drum assembly and lower drum assembly and carry out the following adjustments.
    - PB switching point adjustment
    - Slow tracking adjustment
    - Compatibility adjustment (Be sure to check for compatibility for the EP (or LP) mode.)

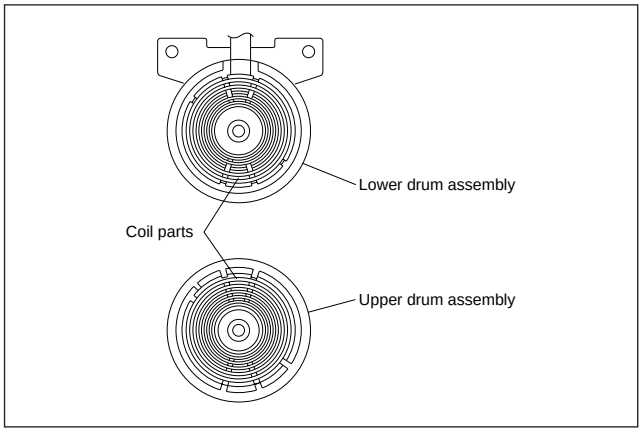


Fig. 2-2-25b

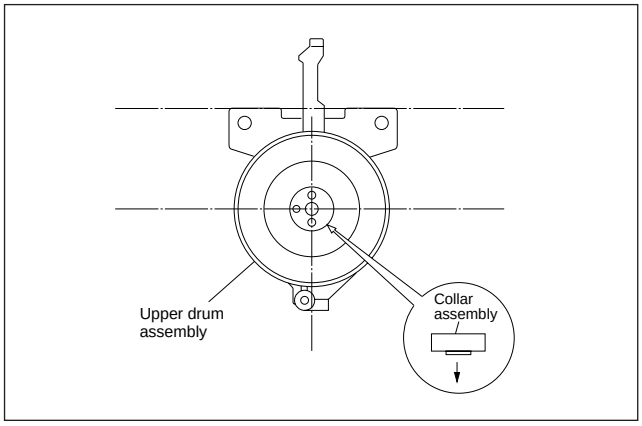


Fig. 2-2-25c

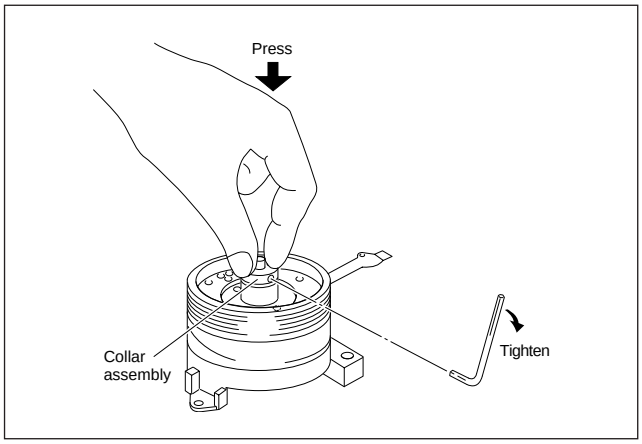


Fig. 2-2-25d

2.3 Compatibility adjustment

Notes:

- ***Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the A/C head, drum assembly or any part of the tape transport system.***
- ***To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape (for recording and play back) ready to be used for checking the initial tape running behavior.***
- ***Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.***
- ***When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 1 DISASSEMBLY.)***

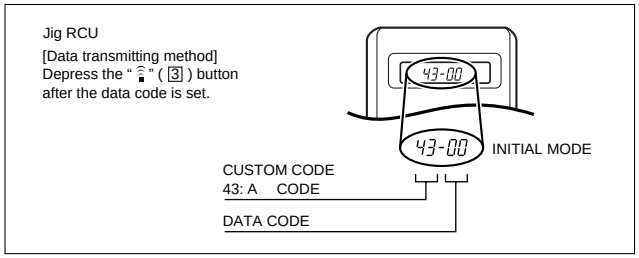


Fig. 2-3a Jig RCU [PTU94023B]

2.3.1 FM waveform linearity

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, PAL) [MHPE] • Alignment tape(LP, stairstep, PAL) [MHPE-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Guide roller [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 2-3-1a.)
(5) Reduce the V.PB FM waveform by the tracking operation. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the roller driver to make it linear. (See Fig. 2-3-1c.)
(6) Make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation again. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play back the alignment tape (A1) again and confirm the V.PB FM waveform.
(8) After adjustment, confirm that the tape wrinkling does not occur at the roller upper or lower limits. (See Fig. 2-3-1d.)

[Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]

(9) Repeat steps (1) to (8) by using the alignment tape (A2).

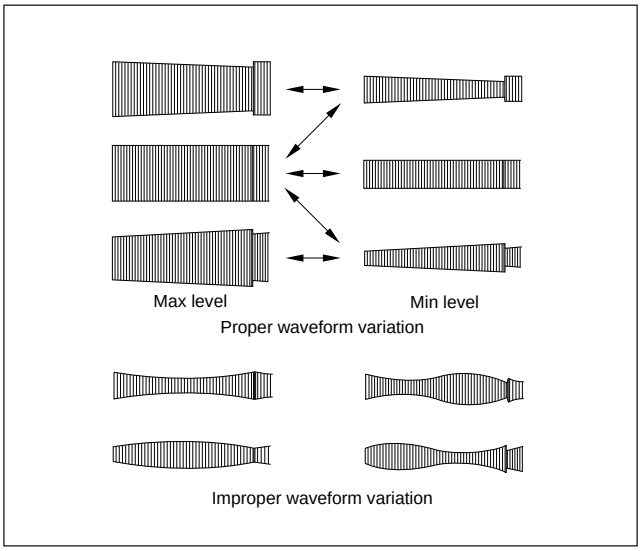


Fig. 2-3-1a

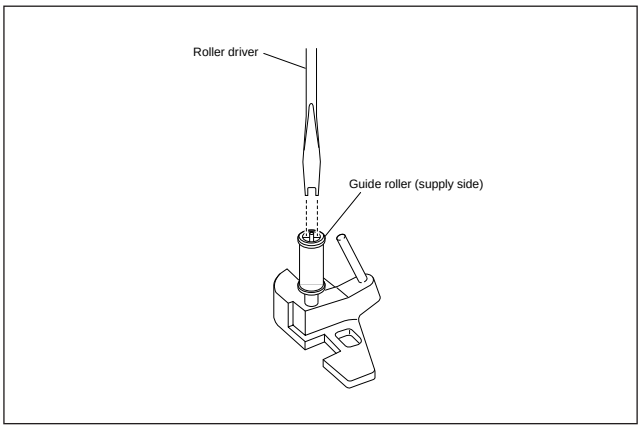


Fig. 2-3-1b

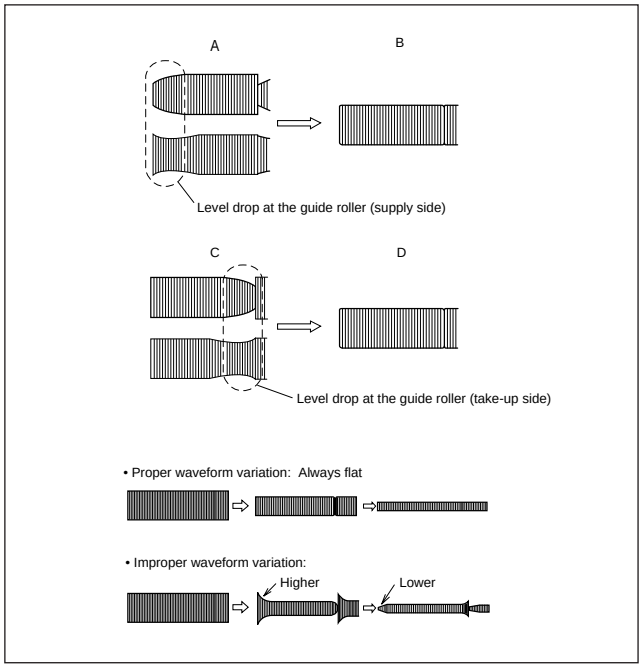


Fig. 2-3-1c

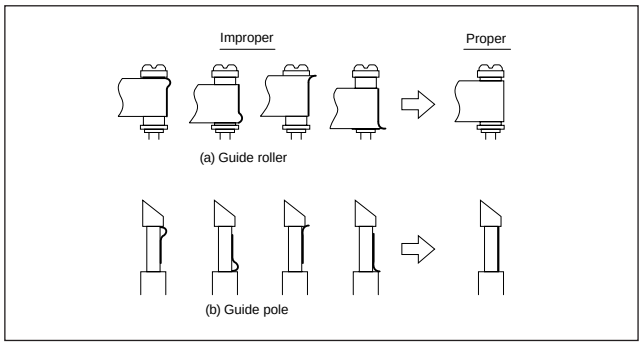


Fig. 2-3-1d

2.3.2 Height and tilt of the A/C head

Note:

- ***Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig.2-2-6c.)***

Signal	(A)	• Alignment tape(SP, stairstep, PAL) [MHPE]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• AUDIO OUT terminal • TP4001 (CTL. P)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head [Mechanism assembly]
Specified value	(G)	• Maximum waveform

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.
(3) Set the VCR to the manual tracking mode.
(4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

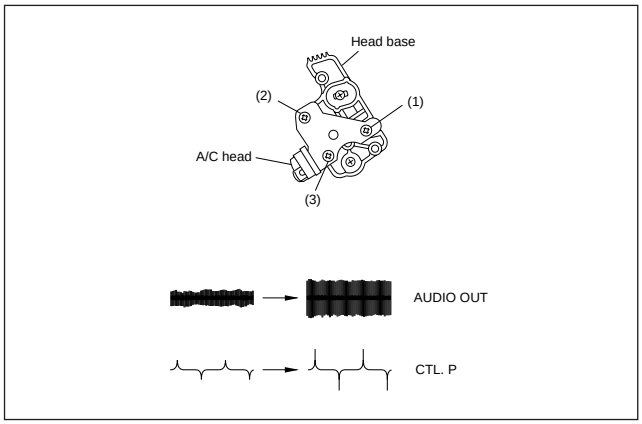


Fig. 2-3-2a

2.3.3 A/C head phase (X-value)

Signal	(A1)	• Alignment tape(SP, stairstep, PAL) [MHPE]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head base [Mechanism assembly]
Specified value	(G)	• Maximum V.PB FM waveform
Adjustment tool	(H)	• A/C head positioning tool [PTU94010]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Loosen the screws (4) and (5), then set the A/C head positioning tool to the innermost projected part of the A/C head. (See Fig. 2-3-3a.)
(5) Turn the A/C head positioning tool fully toward the capstan. Then turn it back gradually toward the drum and stop on the second peak point position of the V.PB FM waveform output level. Then tighten the screws (4) and (5).
(6) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
If it is not at maximum, loosen the screws (4) and (5), and turn the A/C head positioning tool to bring the A/C head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

[Perform adjustment steps (7) to (10) only for 2 Head models equipped with LP mode.]

(7) Then play back the alignment tape (A2).
(8) Set the VCR to the manual tracking mode.
(9) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
(10) If it is not at maximum, loosen the screws (4) and (5), and turn the A/C head positioning tool to bring the A/C head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

Note:

- ***After adjusting, always perform the confirmation and re-adjustment of the item 2.3.4.***

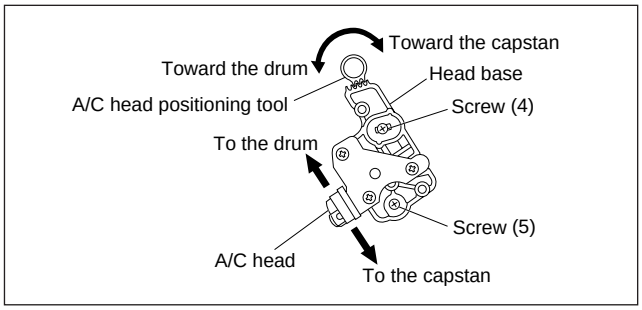


Fig. 2-3-3a

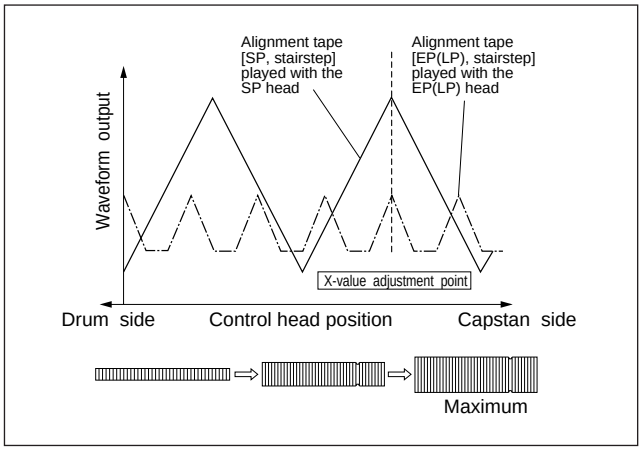


Fig. 2-3-3b

2.3.4 Standard tracking preset

Signal	(A)	• Alignment tape(LP, stairstep, PAL) [MHPE-L]
Mode	(B)	• PB → Auto adjust
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Jig RCU: Code “50”
Specified value	(G)	• STOP mode (Maximum V.PB FM waveform)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Confirm that the automatic tracking operation is completed.
(4) Set the VCR to the Auto adjust mode by transmitting the code (F) twice from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed.
(5) If the VCR enters the eject mode, perform adjustment for the audio control head phase (X-value) again.

2.3.5 Tension pole position

Signal	(A)	• Back tension cassette gauge [PUJ48076-2]
Mode	(B)	• PB
Adjustment part	(F)	• Adjust pin [Mechansim assembly]
Specified value	(G)	• 25 - 51 gf•cm ($2.45 – 5 \times 10^{-3}$ Nm]

(1) Play back the back tension cassette gauge (A).
(2) Check that the indicated value on the left side gauge is within the specified value (G).
(3) If the indicated value is not within the specified value (G), perform the adjustment in a following procedure.
  1) Set the VCR to the mechanism service mode. (See SECTION 1 DISASSEMBLY.)
  2) Set the VCR to the play back mode and adjust by turning adjustment pin to align the tension arm assembly edge with the main deck hole (A) on the right edge marker. (See Fig. 2-3-5a)

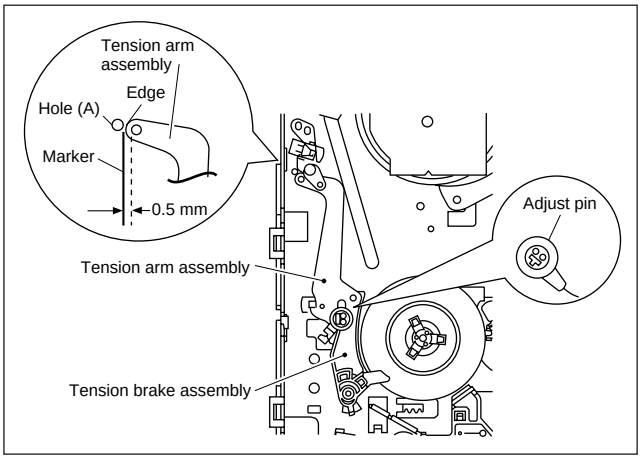
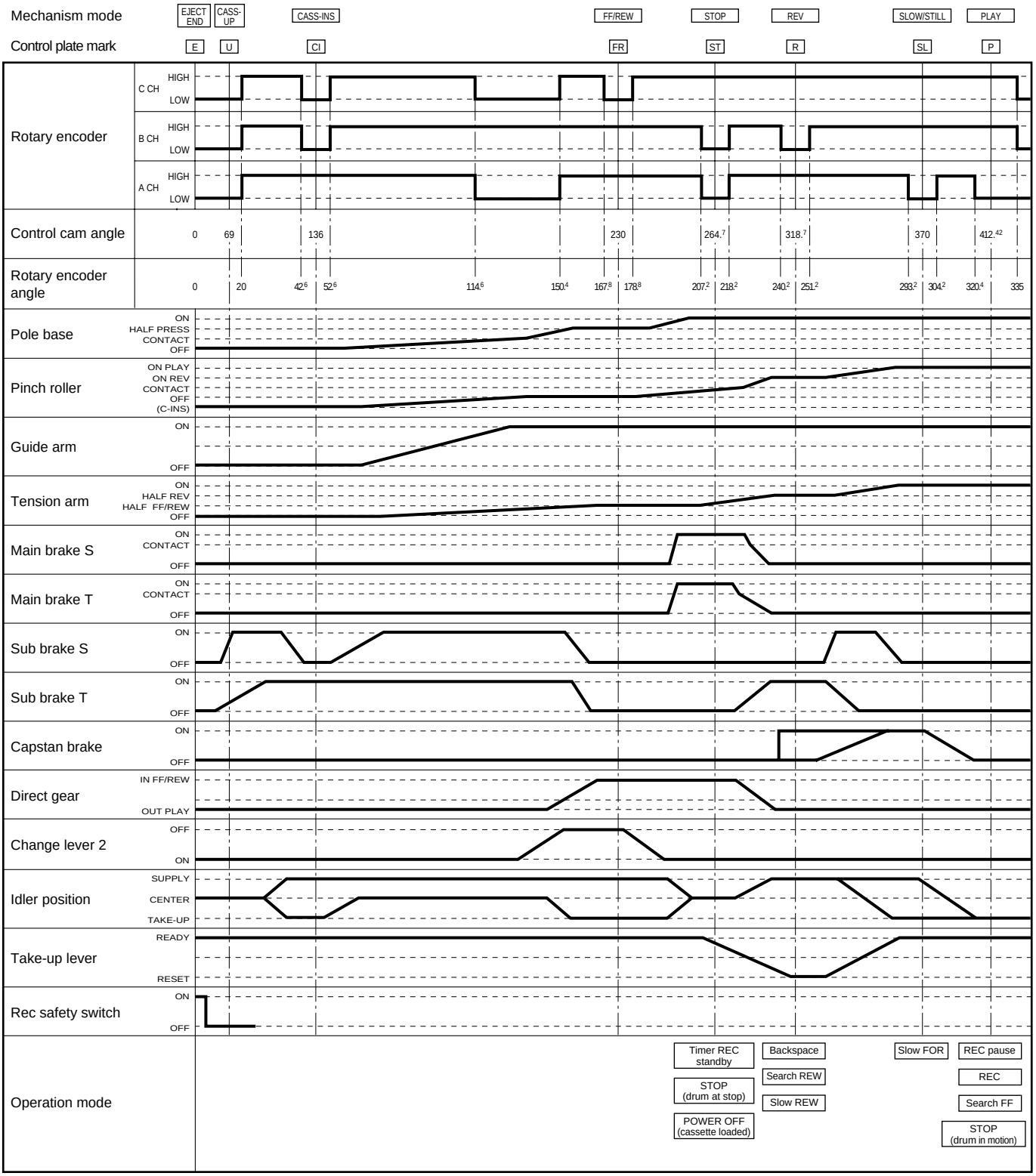


Fig. 2-3-5a

Mechanism Timing Chart



MECHANISM ADJUSTMENT (DV)

2.4 PREPARATION

2.4.1 Precautions

(1) Observe the specified screw tightening torque when attaching parts. The torque should be 0.04 Nm (0.4 kgfcm) unless otherwise specified.
(2) Always disconnect the power supply unit before proceeding to solder or attach parts.
(3) When plugging or unplugging a wire, be careful not to damage the connector.
(4) When replacing a part, be careful not to damage other parts or to mistakenly attach parts.

2.4.2 Tools Required for Adjustments

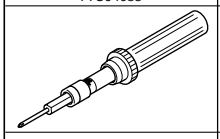
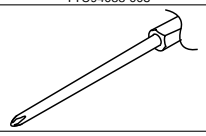
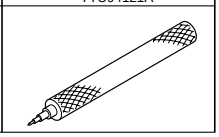
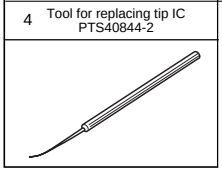
1 TORQUE DRIVER YTU94088	2 BIT YTU94088-003	3 Tool for installing slit washer YTU94121A
		
4 Tool for replacing tip IC PTS40844-2		
		

Table 2-4-1 Tools Required for Adjustments

2.4.3 Disassembly and Assembly Procedures

The following table shows the steps for assembling or disassembling the mechanism parts. Read the following descriptions carefully before actual assembly/disassembly operations.

(1) : Order of disassembly steps. Reverse this order when assembling.
(2) : Name of the disassembled/assembled part.
(3) : Surface where the disassembled/assembled part is mounted. T = Top. B: Bottom.
(4) : Number of disassembly drawing.
(5) : Parts to be removed in disassembly/assembly, such as screws, washers and springs, and the points.

Symbol	Name & Point
S	Screw
W	Washer
P	Spring
*	Connector, lock(L), soldering(SD), shield, etc.

[Example] • (W1) = Remove the washer W1.
• (P1) = Remove the spring P1.

(6) : Notes for disassembly/assembly.
(7) : For the phase alignment in disassembly/assembly and the parts which require phase adjustments after assembly, see “2.11 MECHANISM PHASE CHECK/ADJUSTMENT”.

2.4.4 Screws and Washers Used in Disassembly/Assembly of the Mechanism Assembly

Table 2-4-1 shows the symbols, designs, part numbers and colors of the screws and washers used in the mechanism assembly.
When disassembling or assembling the mechanism assembly, be sure to attach screws and washers correctly by referring to the following table.

Symbol	Part number
(S1)	QYTDSP2004Z
(S2)	YQ43893
(S3)	YQ43893-7

Symbol	Part number
(W1)	YQ44246
(W2)	YQ44246-3
(W3)	YQ43933-2

Table 2-4-2

Step /Loc No.	Part Name		Fig. No.	Point	Note	Discription
①	Ⓐ Cassette housing assembly/ Ⓑ Mechanism assembly	T	1	2(S1),(L1) – (L5)	1	
②	① Drum assembly	T	2	3(S2)	2,3	
③	② Motor bracket assembly	T	2	4(S2)	2,4	
④	③ Middle catcher assembly	T	3	3(S2)	—	
↑ (1)	↑ (2)	↑ (3)	↑ (4)	↑ (5)	↑ (6)	↑ (7)

2.5 DISASSEMBLY/ASSEMBLY OF THE MECHANISM ASSEMBLY

2.5.1 Introduction

The disassembly and assembly of the mechanism assembly should usually be performed in the ASSEMBLY mode. (Table 2-5-1)

Note that the mechanism is in the cassette in (C-IN) mode when the mechanism assembly is taken out of the set and that the C-IN mode should be switched to the ASSEMBLY mode in this case.

To set the ASSEMBLY mode, apply 3 V DC to the electrodes on the upper part of the loading motor as shown in Fig. 2-5-7.

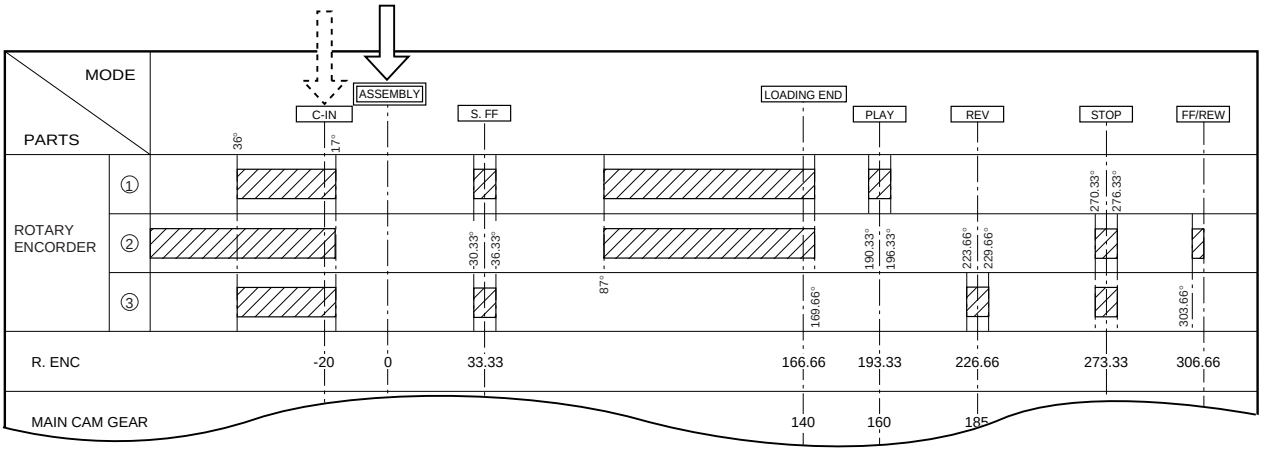


Table 2-5-1

2.5.2 Mechanism Modes

The mechanism has 6 modes as shown in Table 2-6-1. The current mode can be confirmed by the positioning of the " ○ " marking on the sub-cam gear and the "▲" marking on the mechanism.

See the following figures (Figs. 2-5-1 to -6) for details.

Note:

- ***This mechanism assembly has another ASSEMBLY mode. However, this mode cannot be identified from the markings because it corresponds to an intermediate position between the C-IN (Ⓒ) mode and S-FF (Ⓗ) mode. This mode can be confirmed by the rotary encoder phase. See Fig. 2-5-7.***

1. Checking the mechanism mode

<C-IN : Ⓒ >

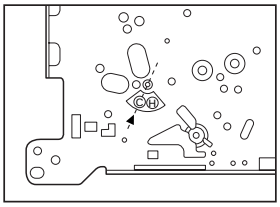


Fig. 2-5-1

<S-FF : Ⓗ >

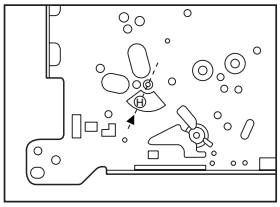


Fig. 2-5-2

<PLAY : Ⓟ >

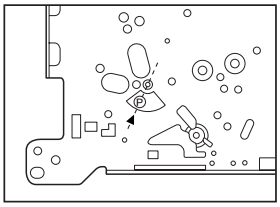


Fig. 2-5-3

<REV : Ⓡ >

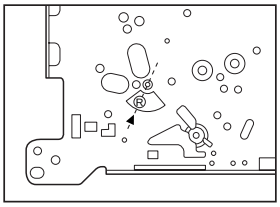


Fig. 2-5-4

<STOP : Ⓢ >

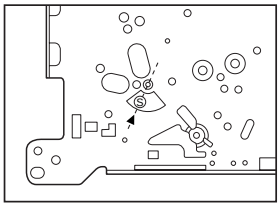


Fig. 2-5-5

<FF/REW : Ⓕ >

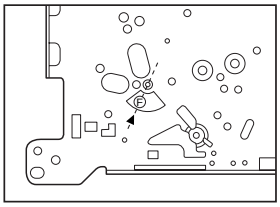


Fig. 2-5-6

2. Setting/checking the ASSEMBLY mode

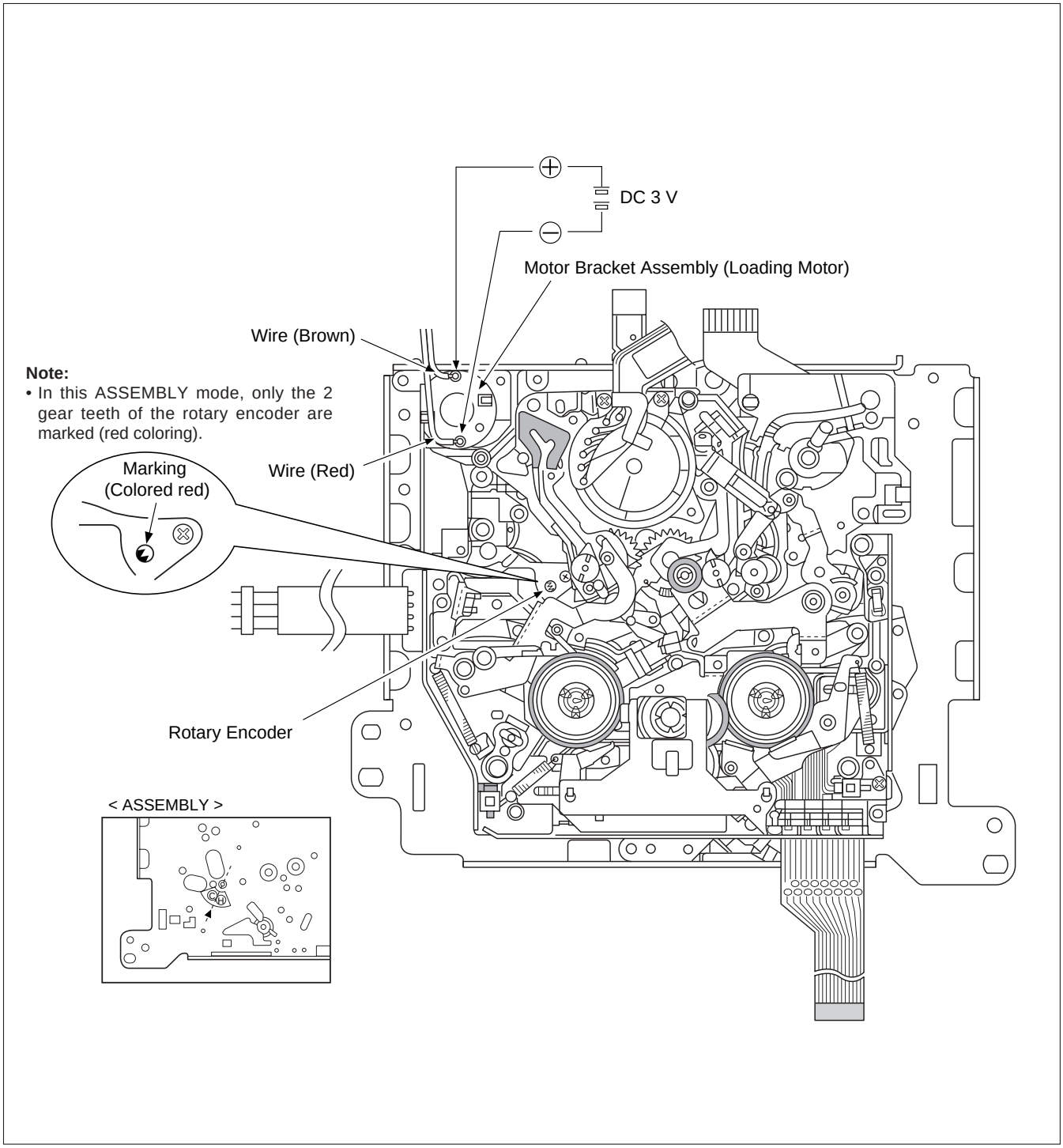

DC 3 V
Motor Bracket Assembly (Loading Motor)
Wire (Brown)
Note:
• In this ASSEMBLY mode, only the 2 gear teeth of the rotary encoder are marked (red coloring).
Wire (Red)
Marking
(Colored red)
Rotary Encoder
< ASSEMBLY >

Fig. 2-5-7

2.6 MECHANISM TIMING CHART

See following table (Table 2-6-1).

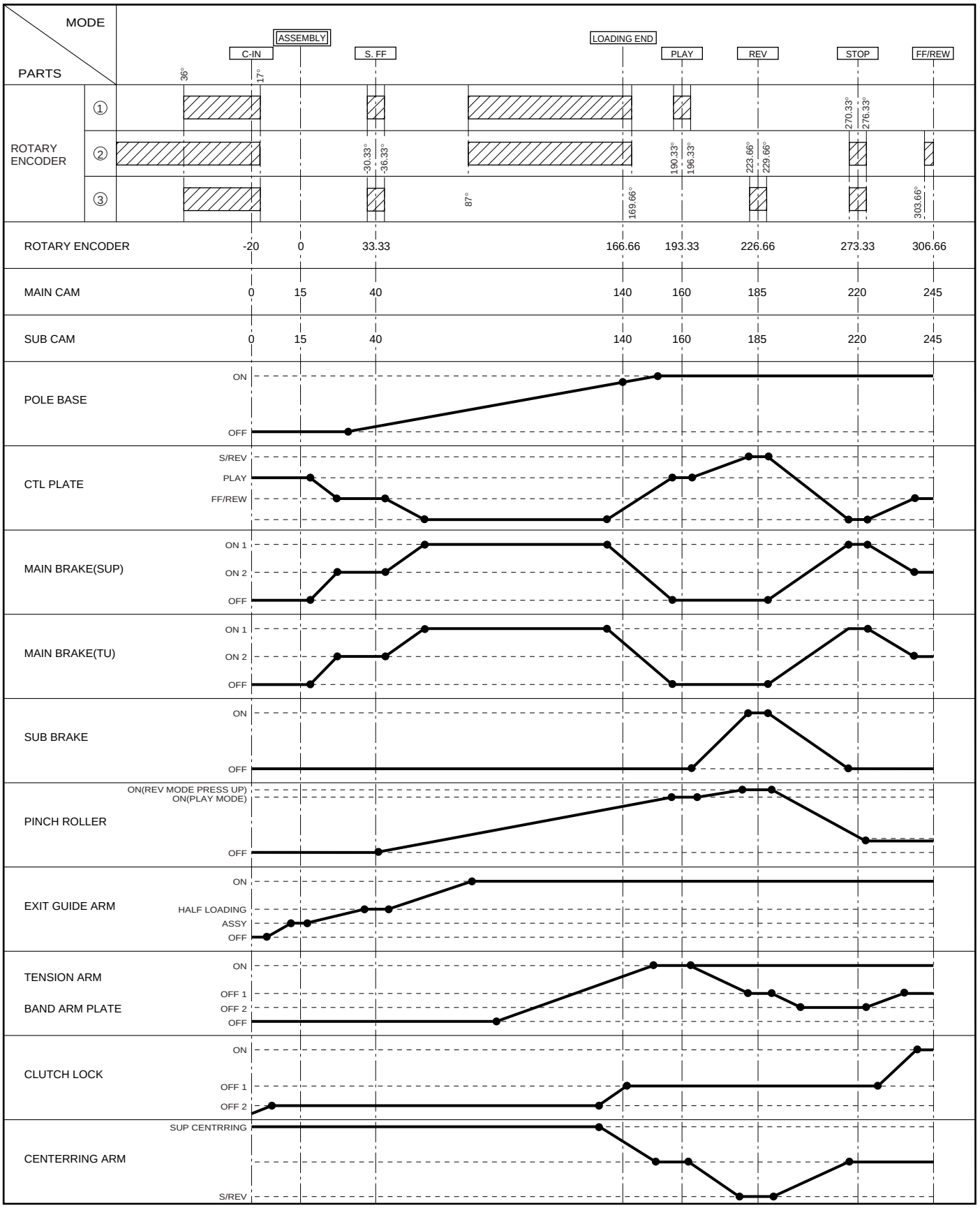


Table 2-6-1

2.7 MECHANISM ASSEMBLY/DISASSEMBLY PROCEDURE TABLE

Step /Loc No.	Part Name		Fig. No.	Point	Note	Discription
1	Ⓐ Cassette housing assembly/ Ⓑ Mechanism assembly	T	2-13-1	2(S1),(L1) – (L5)	1	
2	① Drum assembly	T	2-13-2	3(S2)	2,3	
3	② Motor bracket assembly	T	2-13-2	4(S2)	2,4	
4	③ Middle catcher assembly	T	2-13-3	3(S2)	—	
5	④ Reel cover assembly	T	2-13-3	(S2), 2(L6)	5	
6	⑤ Pinch roller arm assembly	T	2-13-4	(W1), (L7)	6	
7	⑥ Sub brake assembly	T	2-13-4	(P1), (W1), (L8)	—	
8	⑦ Band arm plate sub assembly	T	2-13-4	(S3), (L9), (P2), (W2)	7,8	
9	⑧ Tension arm sub assembly	T	2-13-4	(P3)	8	
10	⑨ EXIT guide arm assembly	T	2-13-5	(W1)	—	
11	⑩ Swing arm assembly	T	2-13-5	—	—	Position alignment
12	⑪ Sub deck assembly	T	2-13-6	4(S2)	9	Position alignment
13	⑫ Main brake (Sup) assembly	T	2-13-6	(P4), (L10)	—	
14	⑬ Main brake (Take up) assembly	T	2-13-6	(P5), (L11)	—	
15	⑭ Reel disk assembly (Sup)	T	2-13-7	—	—	
16	⑮ Reel disk assembly (Take up)	T	2-13-7	—	—	
17	⑯ Prism	T	2-13-7	(S2)	—	
18	⑰ Control plate	T	2-13-7	2(L12)	—	
19	⑱ Guide rail (Take up) assembly	T	2-13-8	4(S2)	10	Position alignment
20	⑲ Guide rail (Sup) assembly	T	2-13-8	(S2), 2(L13)	10	Position alignment
21	⑳ Base plate assembly	T	2-13-8	(S2), 2(L14)	—	
22	㉑ Ent. guide base assembly	T	2-13-9	(S2)	—	
23	㉒ Worm wheel 2	T	2-13-9	—	11	Phase alignment
24	㉓ Timing belt	T	2-13-9	—	—	
25	㉔ Center gear assembly	T	2-13-9	—	—	
26	㉕ Reel drive pulley assembly	T	2-13-10	(W1)	—	
27	㉖ Push plate	T	2-13-10	(W1)	—	
28	㉗ Clutch lock gear(2)	T	2-13-10	(W3)	—	
29	㉘ Clutch lock gear (1)	T	2-13-10	(P6)	—	
30	㉙ Tension control arm assembly	T	2-13-11	(L15)	12	Position alignment
31	㉚ Brake control arm assembly	T	2-13-11	(W1), (L16)	12	Position alignment
32	㉛ Charge arm assembly	T	2-13-11	(L17)	13	Position alignment
33	㉜ Connect gear 2	T	2-13-12	(S2)	—	(Phase alignment)
34	㉝ Connect gear 2	T	2-13-12	(S2)	—	(Phase alignment)
35	㉞ Rotary encoder assembly	T	2-13-13	2(S2)	14	Phase alignment
36	㉟ Main cam	T	2-13-13	(W1)	15	Phase alignment
37	㊱ Arm gear 1 assembly	T	2-13-13	Collar	15,16	Position alignment
38	㊲ Centering arm assembly	T	2-13-13	(L18)	15	Position alignment
39	㊳ Sub cam	T	2-13-14	(S2)	17	Phase alignment
40	㊴ Arm gear 2 assembly	T	2-13-14	—	17	Position alignment
41	㊵ Clutch lock lever assembly	T	2-13-14	(L19)	17,18	Position alignment
42	㊶ Capstan motor	T	2-13-15	(P7), Adjust nut	—	Vertical adjustment
43	㊷ Drum base deck	T	2-13-15	3(S2)	—	

Table 2-7-1

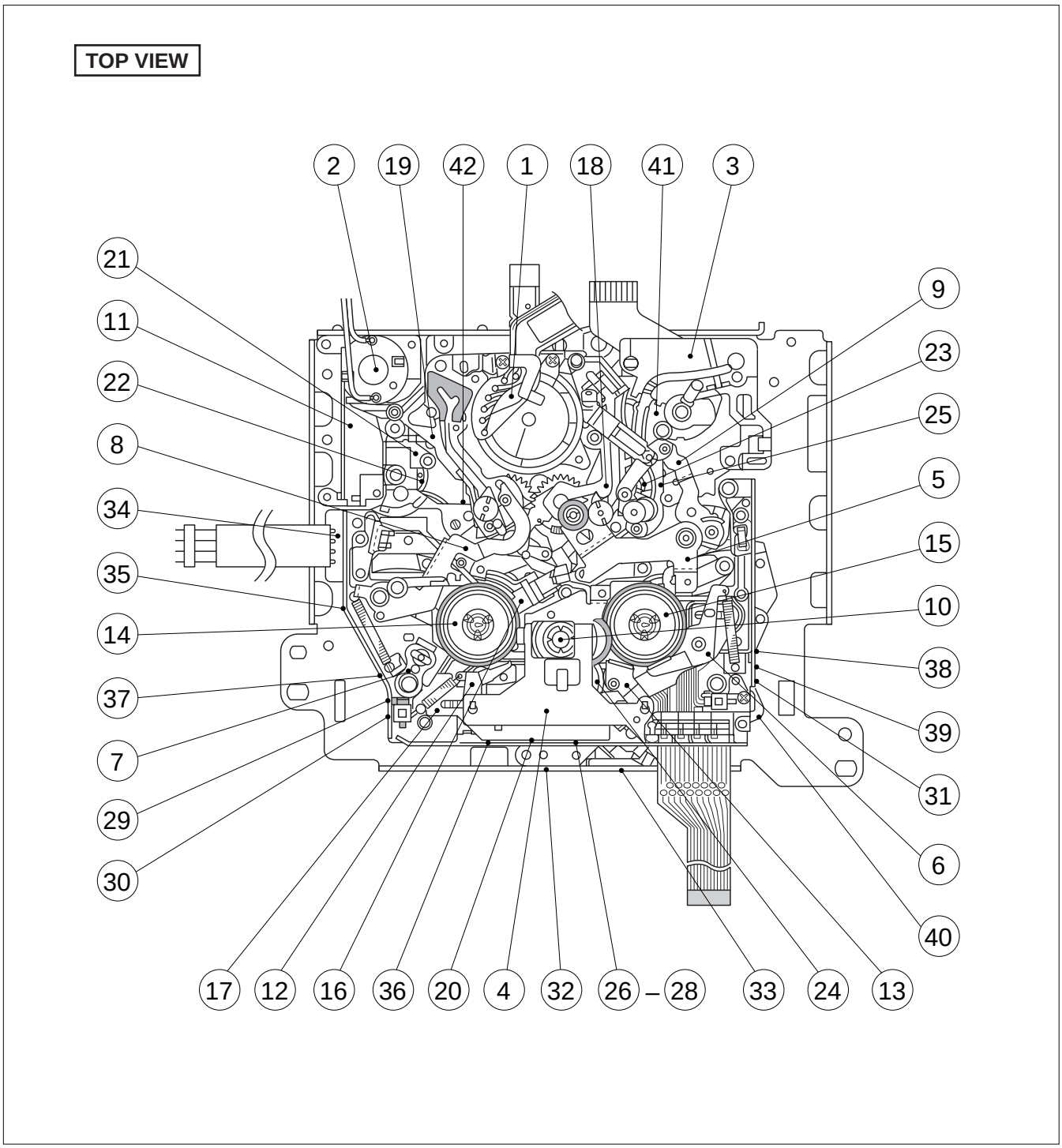

TOP VIEW
2
19
42
1
18
41
3
21
11
22
8
34
35
14
37
7
29
30
9
23
25
5
15
10
38
39
31
6
40
17
12
16
36
20
4
32
26 – 28
33
24
13

Fig. 2-7-1

2.8 DISASSEMBLY/ASSEMBLY

1. Ⓐ Cassette Housing Assembly/ Ⓑ Mechanism Assembly

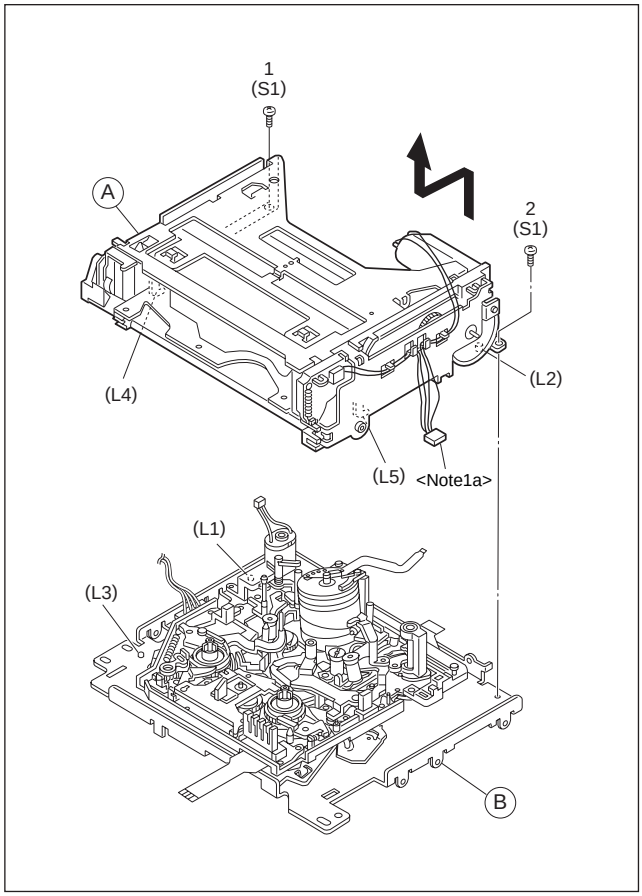


Fig. 2-8-1

<Note 1a>: If the wires for the cassette housing motor are connected to the circuit board, remove them before disassembly.

2. ① Drum assembly / ② Motor bracket assembly

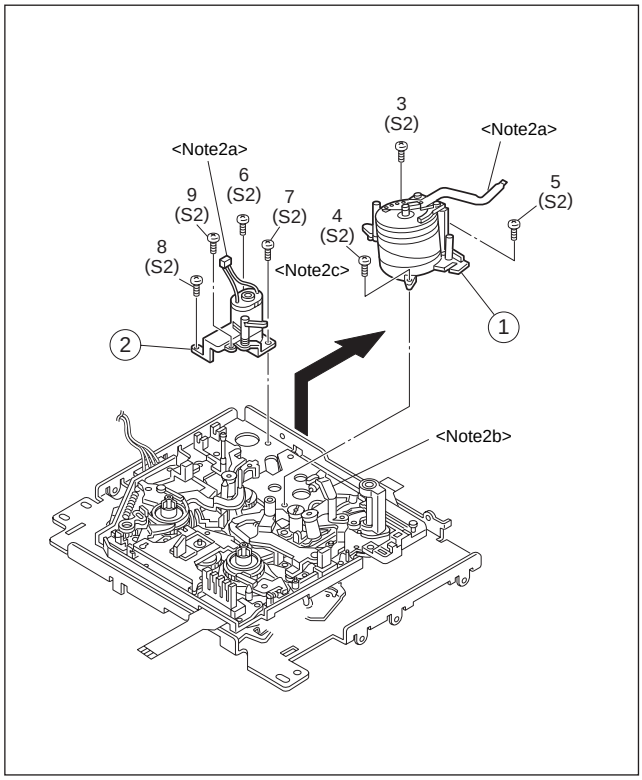


Fig. 2-8-2

<Note 2a>: If wires are connected to the circuit board, remove them before disassembly.

<Note 2b>: Be careful not to damage the drum assembly when removing it.

<Note 2c>: The bracket (DV) may come in the way of removal of screw (7). Be sure to remove the bracket before proceeding to the screw removal.

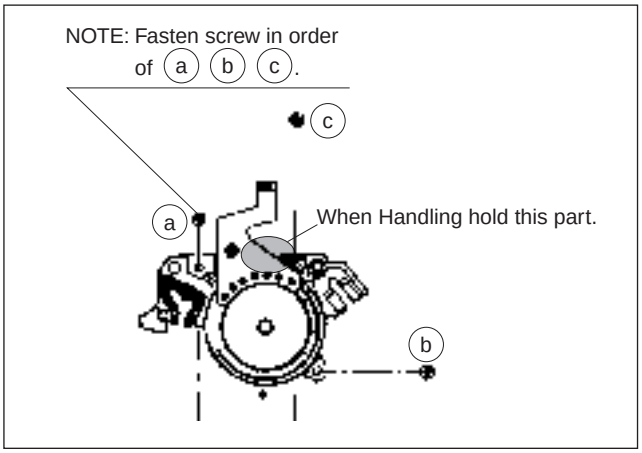


Fig. 2-8-2A

3. ③ Middle Catcher Assembly/ ④ Reel Cover Assembly

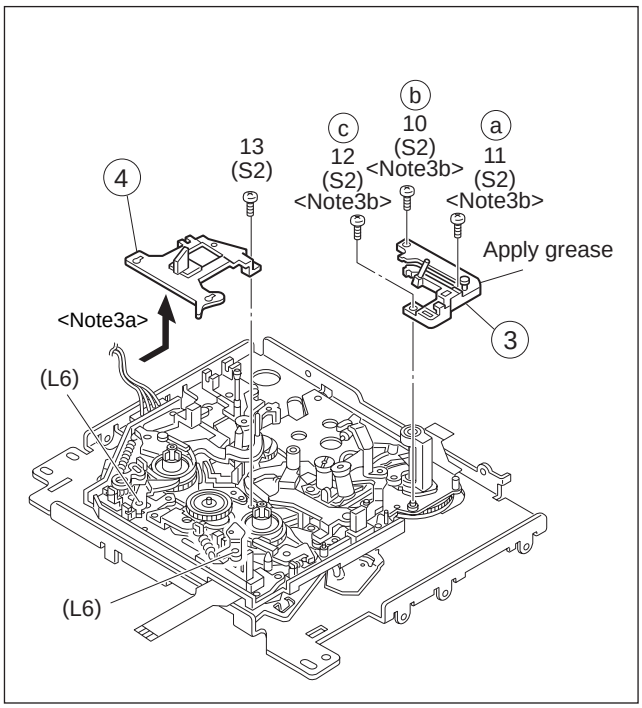


Fig. 2-8-3

<Note 3a>: Once the reel cover assembly has been removed, the parts located below it tend to slip out easily: Be careful.

<Note 3b>: When attaching these screws, screwing order ⓐ ⓑ ⓒ .

4. ⑤ Pinch Roller Arm Assembly/ ⑥ Sub Brake Assembly/ ⑦ Band Arm Plate Sub Assembly/ ⑧ Tension Arm Sub Assembly

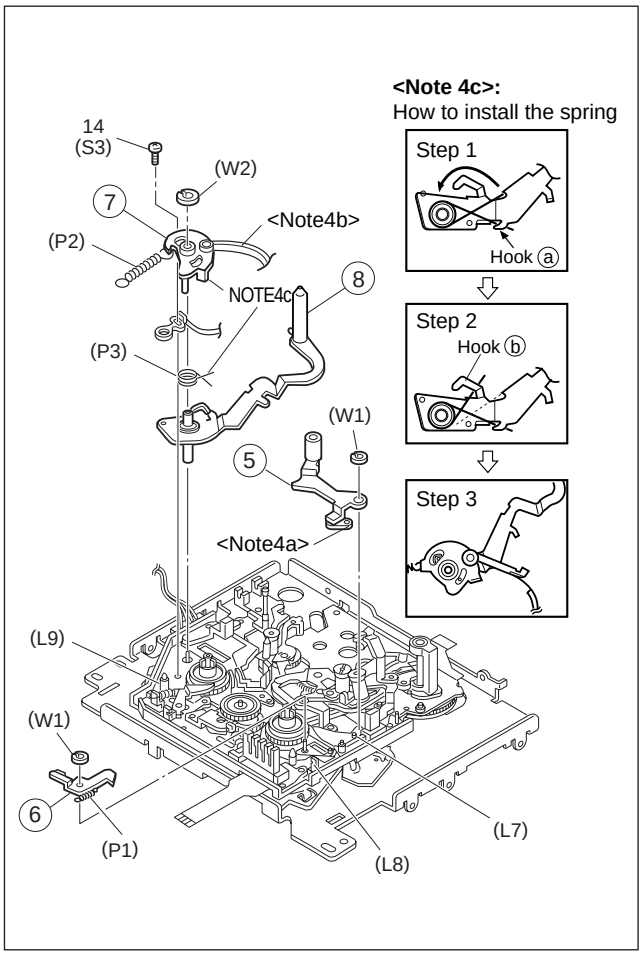


Fig. 2-8-4

<Note 4a>: When attaching this part, fit it in the boss (L7) on the charge arm assembly.

<Note 4b>: When attaching or removing this part, take care of the handling of the band section.

<Note 4c>: After fitting the spring on the shaft, engage it with hook ⓐ first then with hook ⓑ.
After attaching it, set it to the positioning shown in “Step 3” and confirm that band arm plate sub assembly ⑦ can be rotated in the direction of the arrow as shown below.

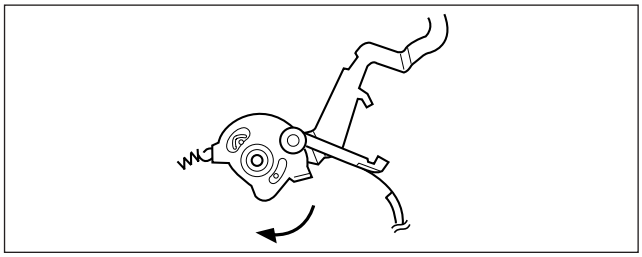


Fig. 2-8-4A

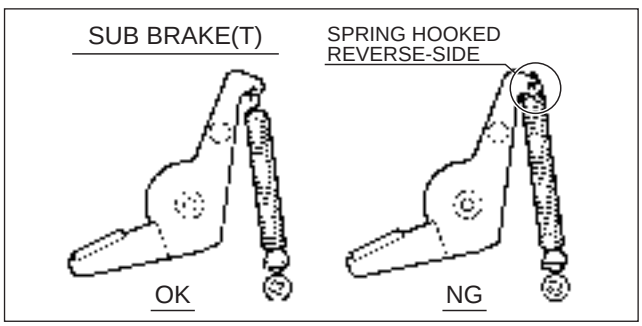


Fig. 2-8-4B

5. ⑨ EXIT Guide Arm Assembly/ ⑩ Swing Arm Assembly

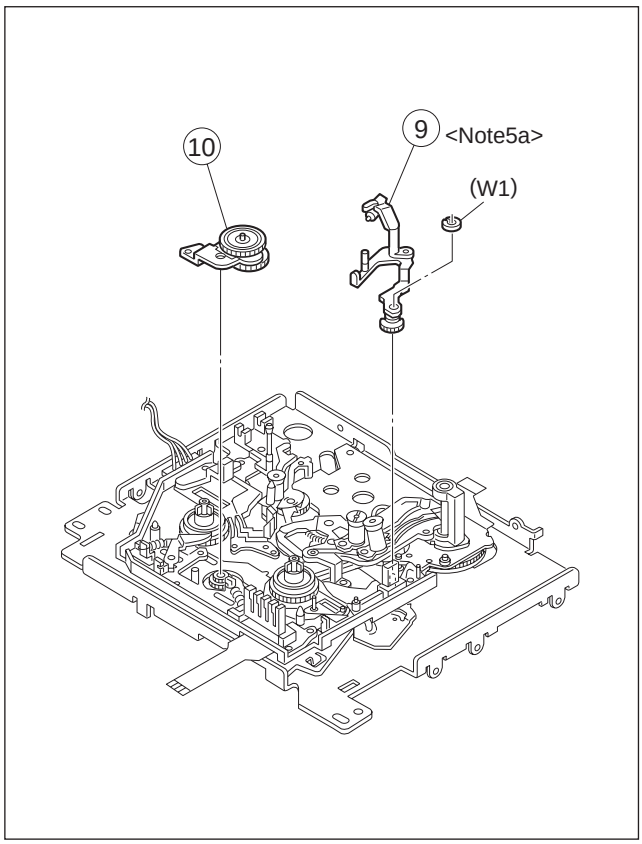


Fig. 2-8-5

<Note 5a>: EXIT Guide Arm Assembly phase alignment.

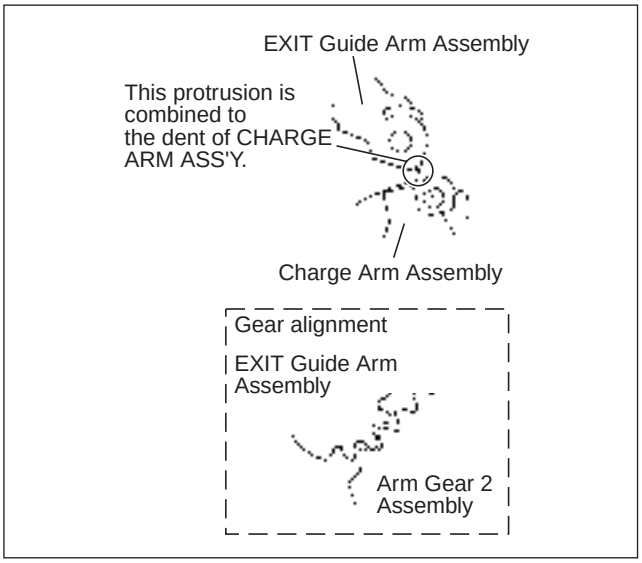

EXIT Guide Arm Assembly
This protrusion is combined to the dent of CHARGE ARM ASS'Y.
Charge Arm Assembly
Gear alignment
EXIT Guide Arm Assembly
Arm Gear 2 Assembly

Fig. 2-8-5A

6. ⑪ Sub Deck Assembly/ ⑫ Main Brake (Sup) Assembly/ ⑬ Main Brake (Take up) Assembly

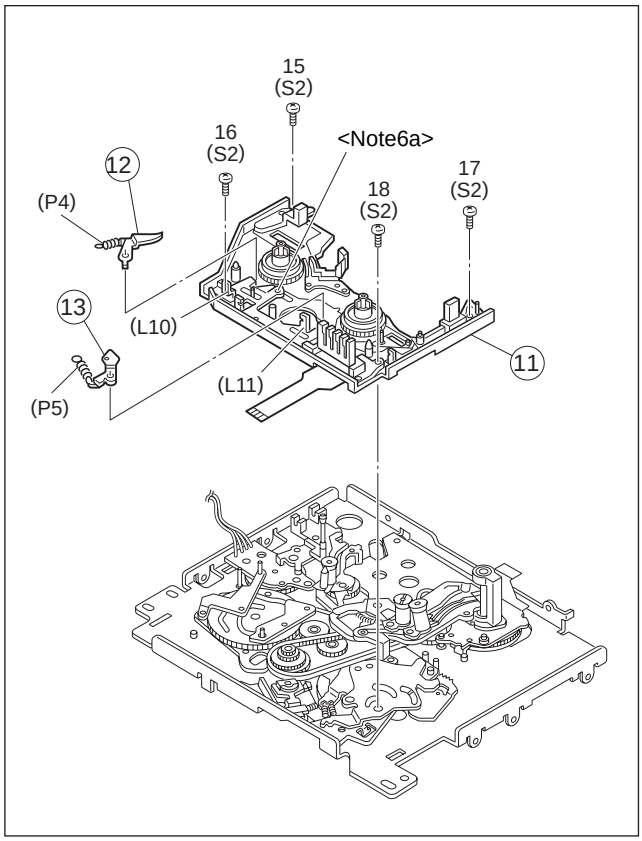


Fig. 2-8-6

<Note 6a>: When attaching the sub deck assembly, make sure to adjust the phase of the control plate.

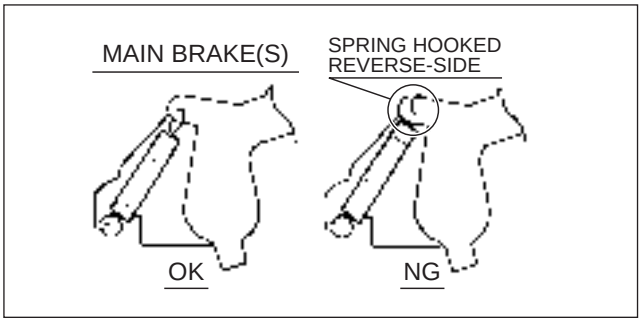


Fig. 2-8-6A

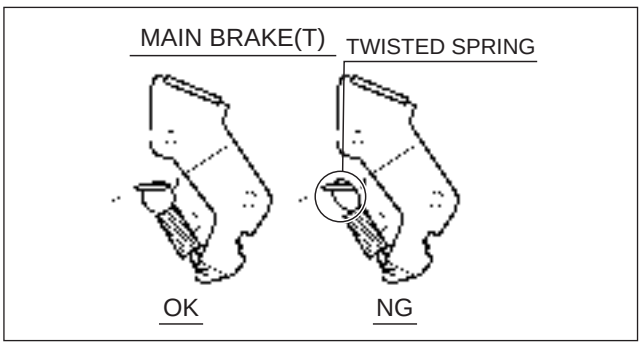


Fig. 2-8-6B

7. ⑭ Reel disk assembly (Sup) / ⑮ Reel disk assembly (Take up) / ⑯ Prism / ⑰ Control plate

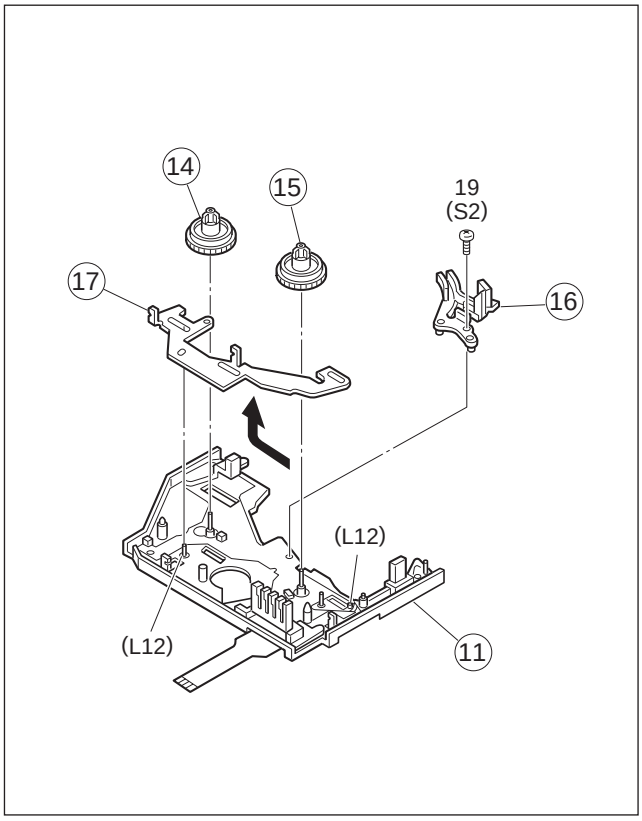


Fig. 2-8-7

8. ⑱ Guide rail (Take up) assembly / ⑲ Guide rail (Sup) assembly / ⑳ Base plate assembly

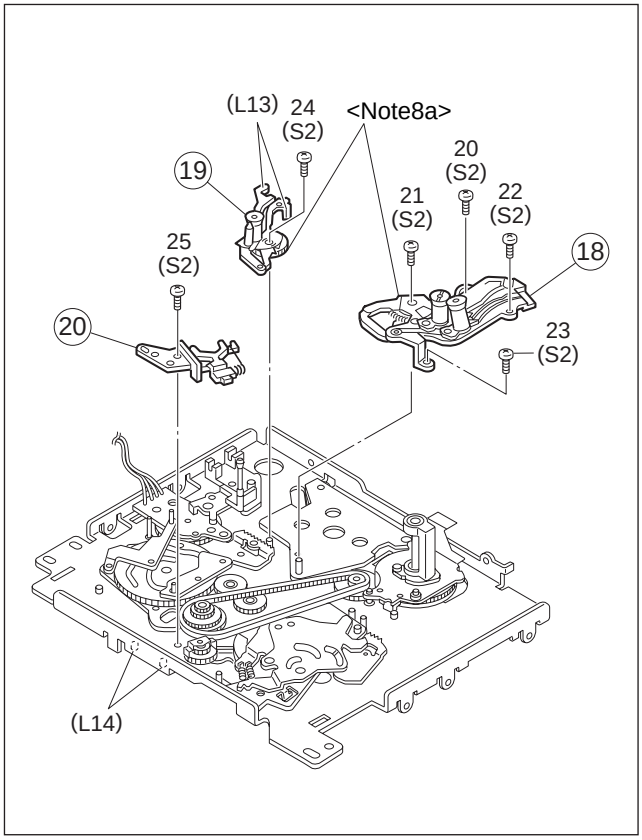


Fig. 2-8-8

<Note 8a>: When attaching, set the alignment markings of the two gears so that the markings face opposite to each other.

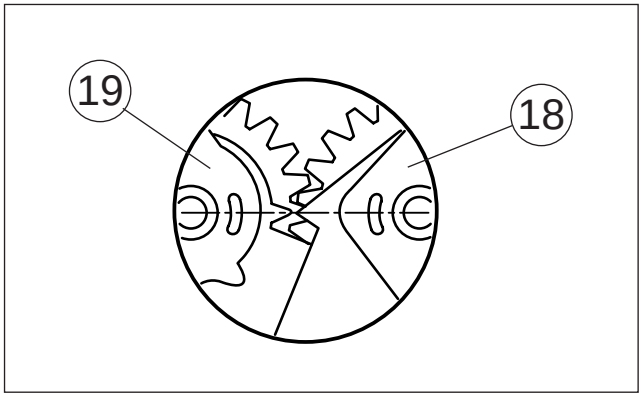


Fig. 2-8-8A

9. (21) Ent. guide base assembly / (22) Worm wheel 2 / (23) Timing belt / (24) Center gear assembly

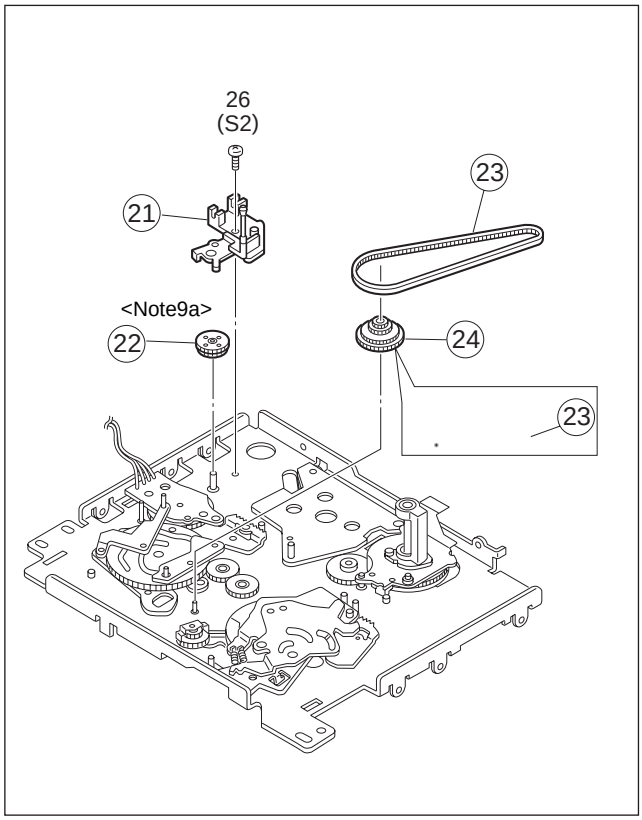
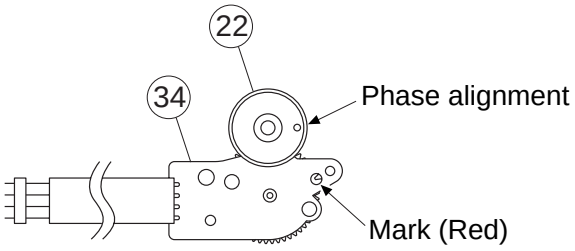


Fig. 2-8-9

<Note 9a>: How to attach the worm wheel 2 (22) .



Align the phase of the rotary encoder assembly (34), then attach it by aligning the phase hole of the mechanism assembly.

Fig. 2-8-9A

10. (25) Reel drive pulley assembly / (26) Push plate (27) Clutch lock gear(2) / (28) Clutch lock gear (1)

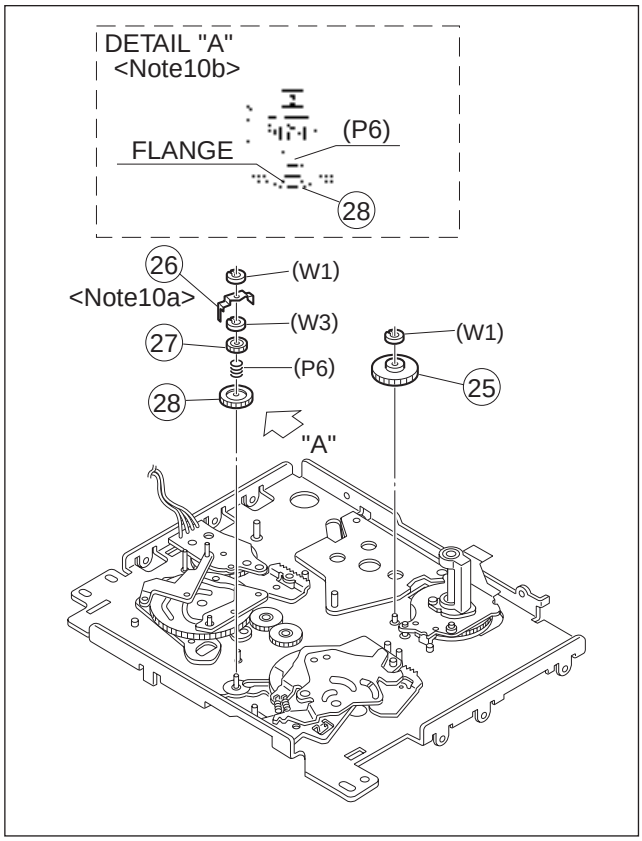


Fig. 2-8-10

<Note 10a>: After attaching (W1), confirm that pushes (26) from the top and hit to MAIN DECK.
If there are a rattling or inclination in (26), reconfirm the attachment of (P6).
(Take care to the oblique insertion of (P6).)

<Note 10b>: Attach (P6) straight for it which does not get on on the flange of (28).

11. (29) Tension control arm assembly/ (30) Brake control arm assembly / (31) Charge arm assembly

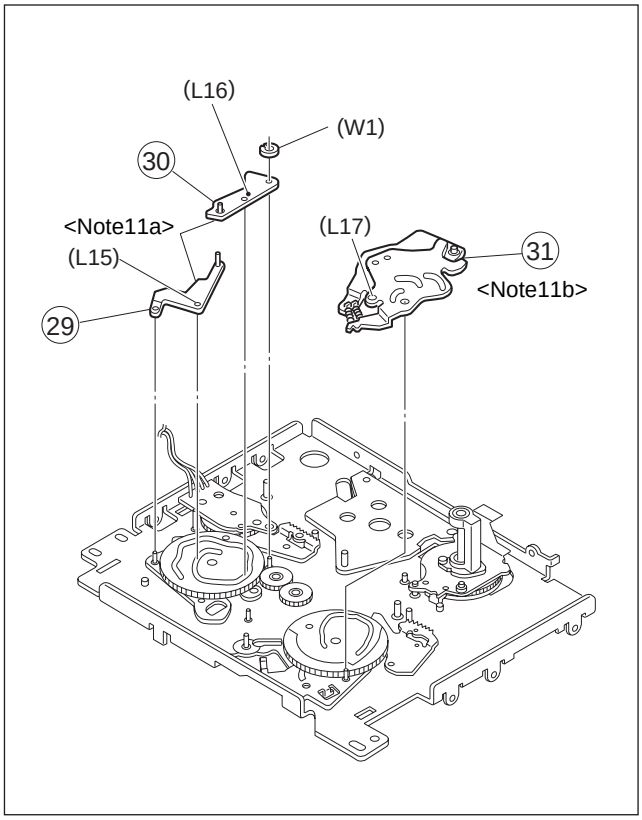


Fig. 2-8-11

12. (32) Connect gear 2 / (33) Connect gear 2

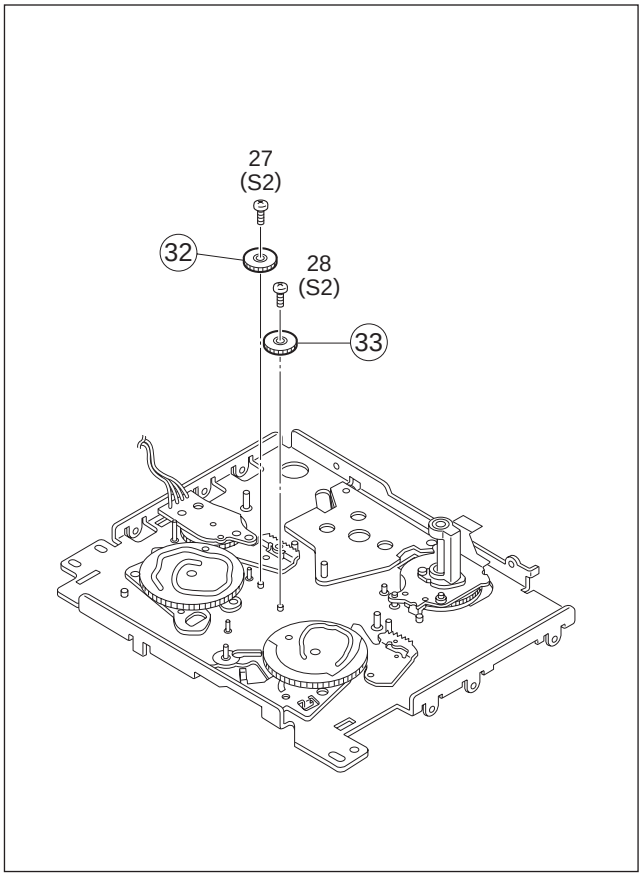
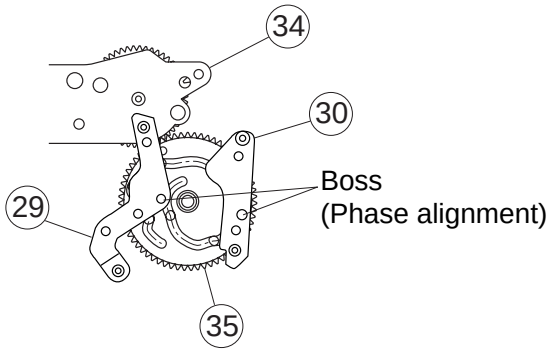


Fig. 2-8-12

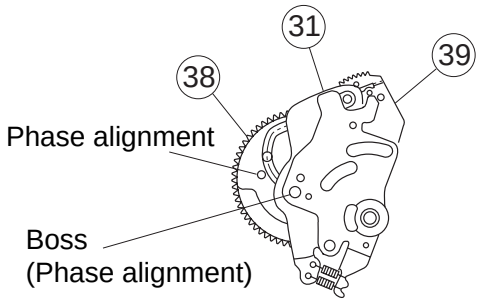
<Note 11a>: How to attach the tension control arm assembly (29) / Brake control arm assembly (30) .



Align the phase of the main cam (35) , then attach it by fitting the bosses into the cam slot.

Fig. 2-8-11A

<Note 11b>: How to attach the charge arm assembly (31) .



Align the phase of the sub cam (38) , then attach it by fitting the boss into the cam slot.

Fig. 2-8-11B

13. (34) Rotary encoder assembly / (35) Main cam / (36) Arm gear 1 assembly / (37) Centering arm assembly

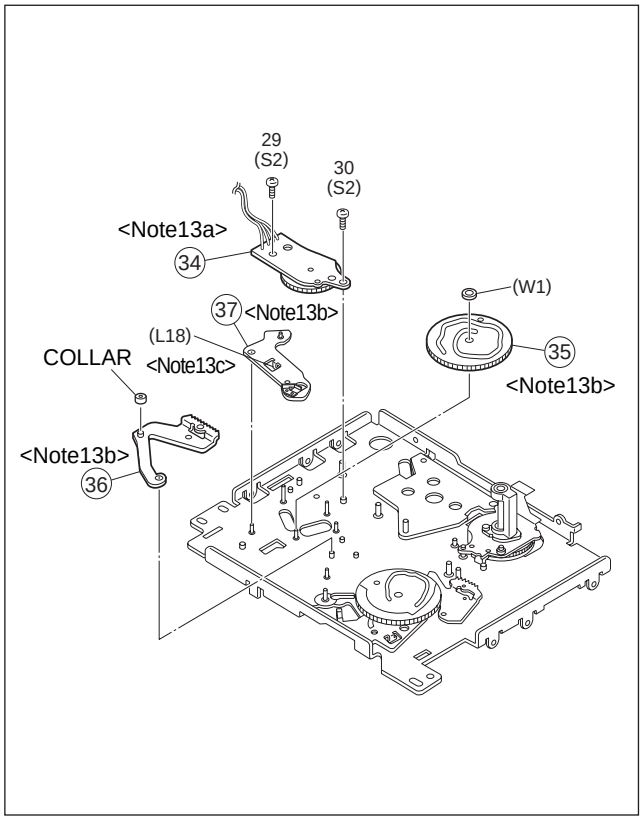
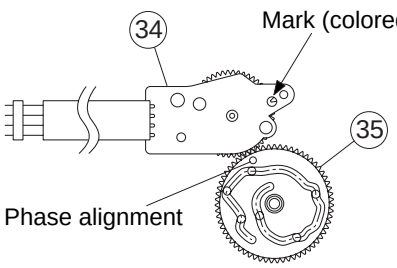


Fig. 2-8-13

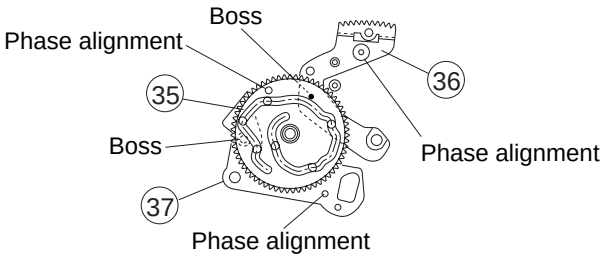
<Note 13a>: How to attach the rotary encoder assembly (34) .



Align the phase of the main cam (35) , then attach it by placing the (red) coloured markings (on 2 gear teeth) within the encircled area.

Fig. 2-8-13A

<Note 13b>: How to attach the main cam (35) .



Align the phases of the arm gear 1 assembly (36) and centering arm assembly (37), then attach the arm gear 1 assembly (36) /centering arm assembly (37) by fitting the bosses into the lower cam slot, and fit the slit washer.

Fig. 2-8-13B

<Note 13c>: How to remove the centering arm assembly (37)
The center arm assembly is located behind the mechanism assembly when the phase is aligned correctly. The center arm assembly can be removed by displacing it in the direction of the arrow.

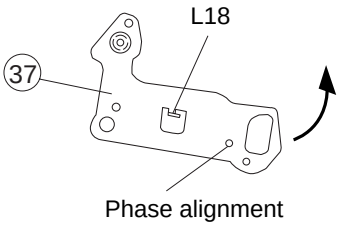


Fig. 2-8-13C

14. (38) Sub cam / (39) Arm gear 2 assembly / (40) Clutch lock lever assembly

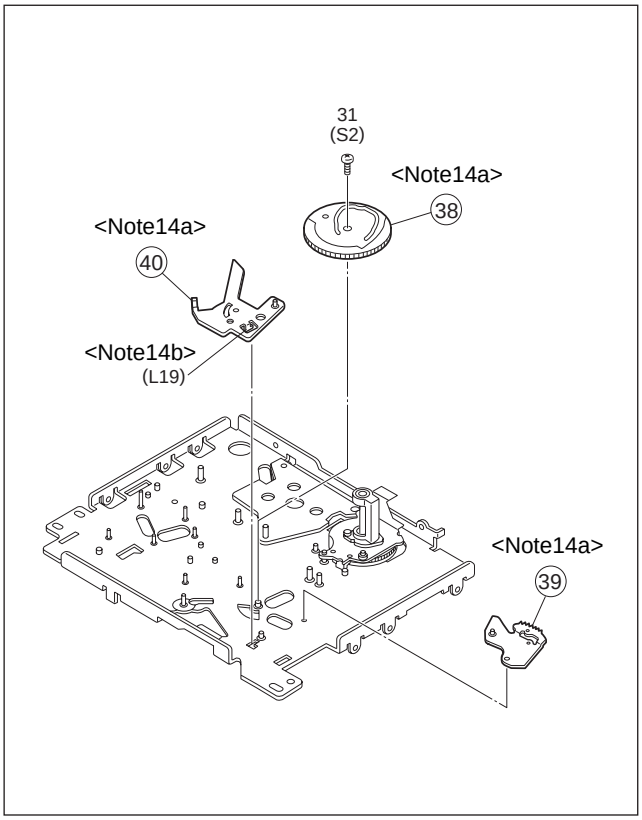


Fig. 2-8-14

15. (41) Capstan motor / (42) Drum base deck

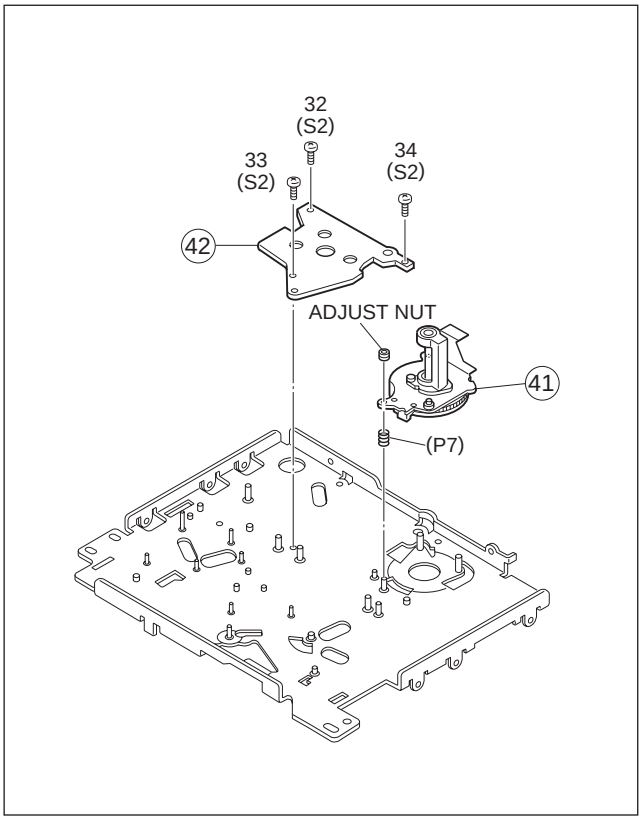
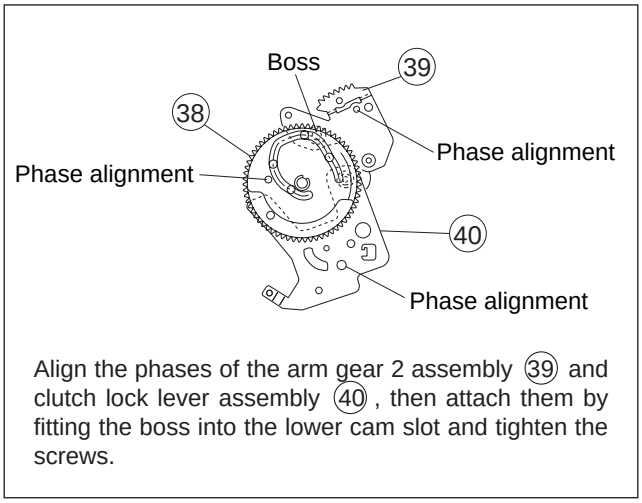


Fig. 2-8-15

<Note 14a>: How to attach the sub cam (38) .



Align the phases of the arm gear 2 assembly (39) and clutch lock lever assembly (40) , then attach them by fitting the boss into the lower cam slot and tighten the screws.

Fig. 2-8-14A

<Note 14b>: How to remove the clutch lock lever assembly (40)
L19 is located behind the mechanism assembly when the phase is aligned correctly. The clutch lock lever assembly can be removed by displacing it in the direction of the arrow.

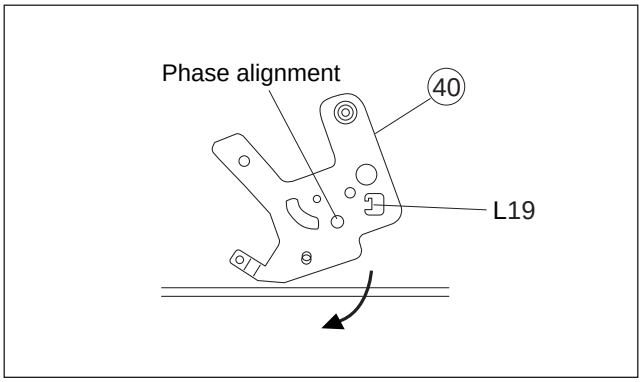
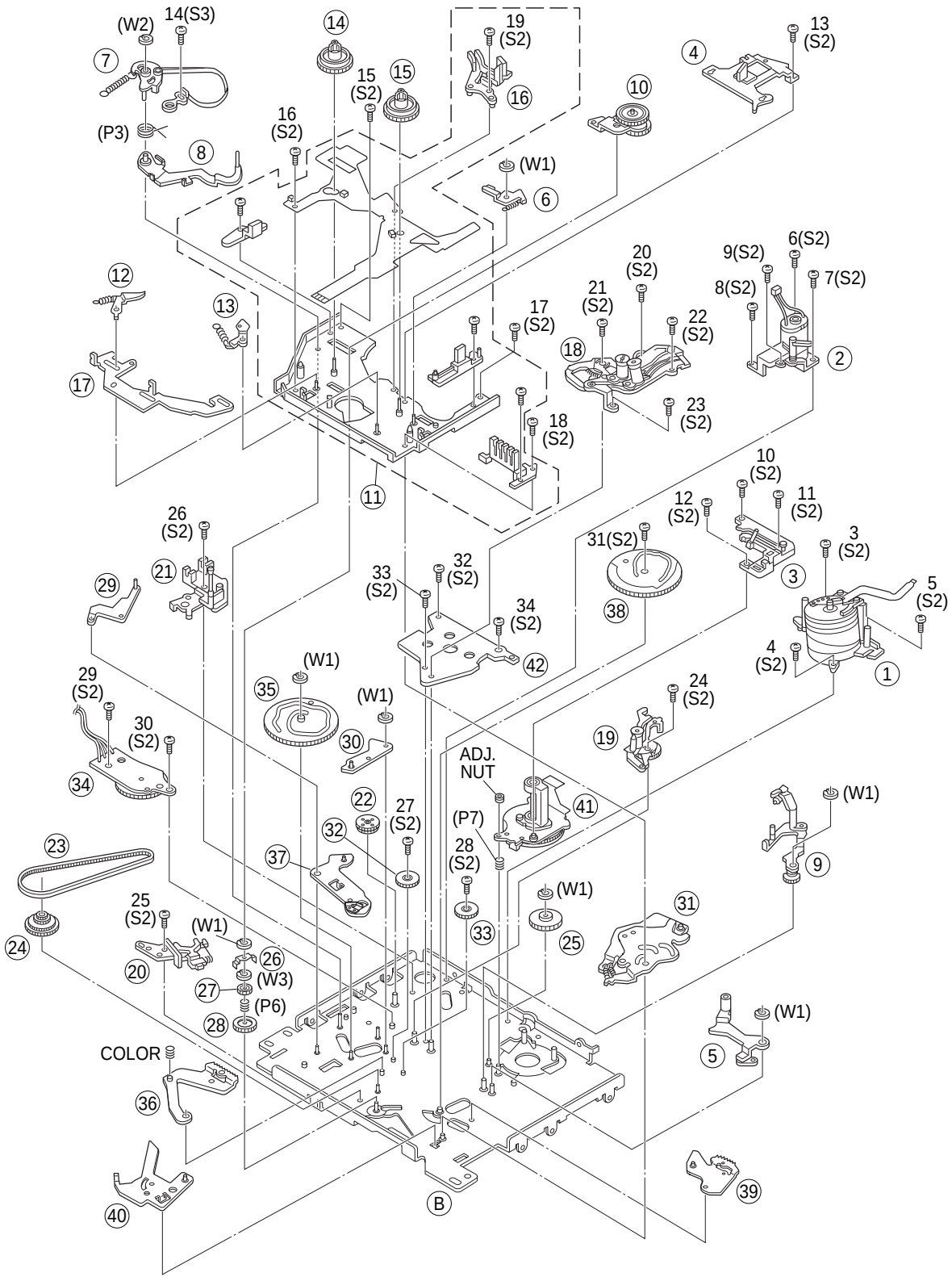


Fig. 2-8-14B

2.9 LIST OF PROCEDURES FOR DISASSEMBLY



Note :

- For the greasing and oiling locations, see “SECTION 5 PARTS LIST” (Page 5-6).

Fig. 2-9-1

2.10 MECHANISM PHASE CHECK/ADJUSTMENT

See Fig. 2-10-1.

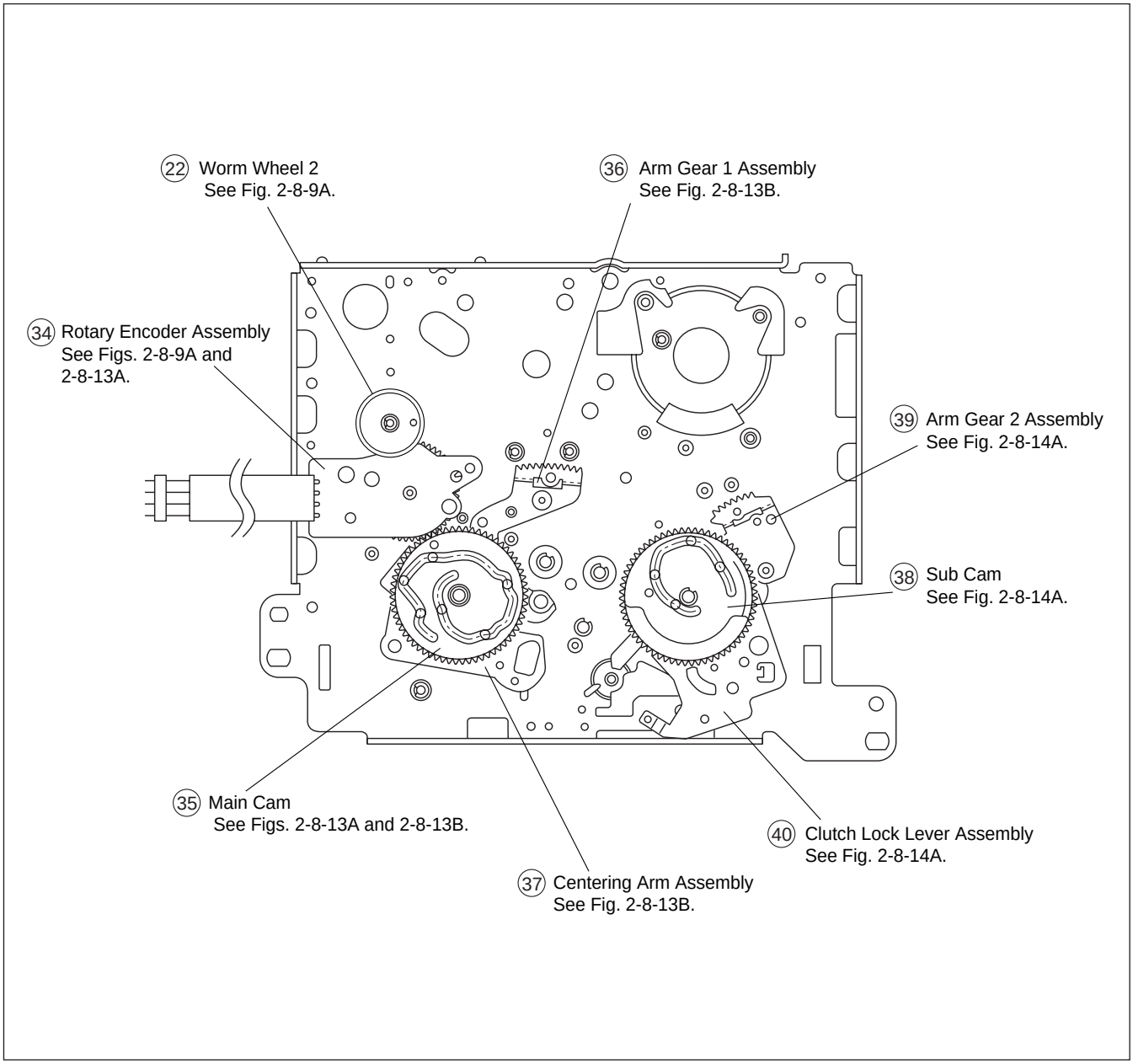


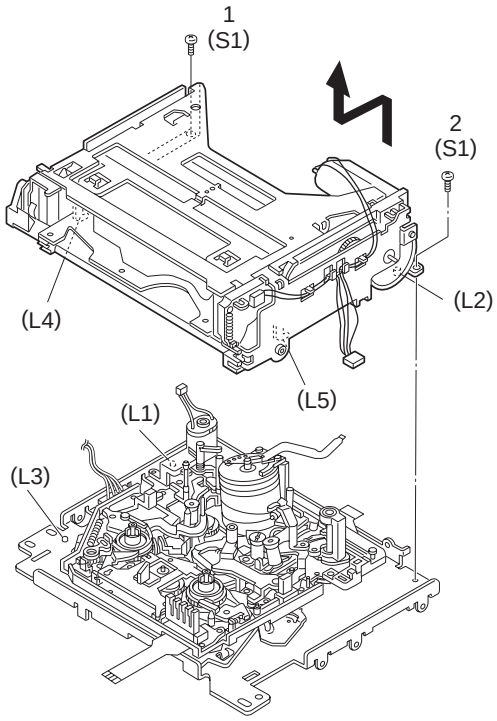
Fig. 2-10-1

2.11 MECHANISM DISASSEMBLY/ASSEMBLY SHEET

Screw Management Table

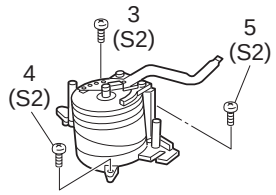
Fig. No.	Ⓐ		①			②				③			④	⑦	⑪			
No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Type	S1	S1	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S3	S2	S2	S2	S2
Attachin																		
Ref. Fig.	2-13-1		2-13-2							2-13-3				2-13-4	2-13-6			

Ⓐ Cassette housing assembly



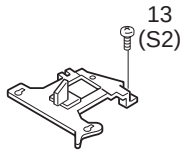
S1×2, L1-L5

① Drum assembly



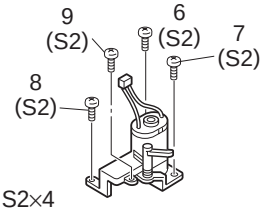
S2×3

④ Reel cover assembly



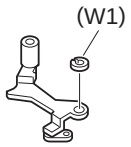
S2, L6×2

② Motor bracket assembly



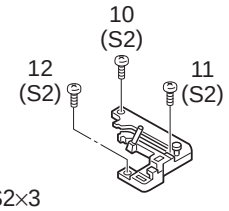
S2×4

⑤ Pinch roller arm assembly



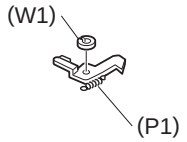
W1, L7

③ Middle catcher assembly



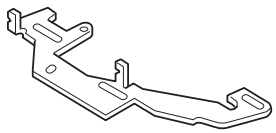
S2×3

⑥ Sub brake assembly



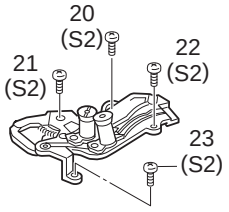
P1, W1, L8

⑰ Control plate



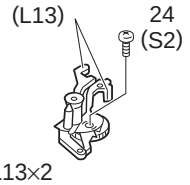
L12×2

⑱ Guide rail (Take up) assembly



S2×4

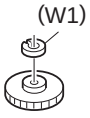
⑲ Guide rail (Sup) assembly



S2, L13×2

㉔ Center gear assembly

㉕ Reel drive pulley assembly

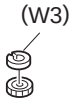


W1

㉖ Push plate

W1

㉗ Clutch lock gear (2)

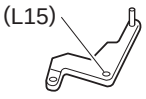


W3

㉘ Clutch lock gear (1)

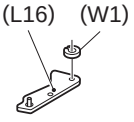
P6

㉙ Tension control arm assembly



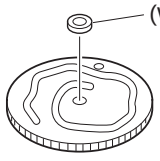
L15

㉚ Brake control arm assembly



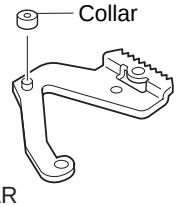
W1, L16

㉟ Main cam



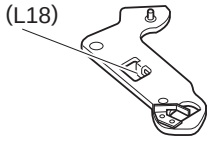
W1

㊱ Arm gear 1 assembly



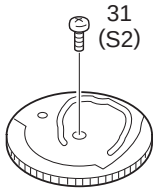
COLLAR

㊲ Centering arm assembly



L18

㊳ Sub cam

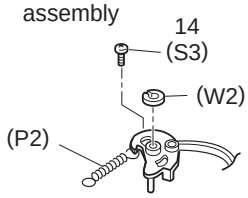


S2

Fig. 2-11-1A

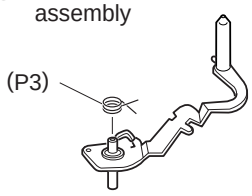
⑯	⑱				⑲	⑳	㉑	㉜	㉝	㉞		㊳	㊷		
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2
2-13-7	2-13-8						2-13-9	2-13-12		2-13-13		2-13-14	2-13-15		

⑦ Band arm plate sub assembly



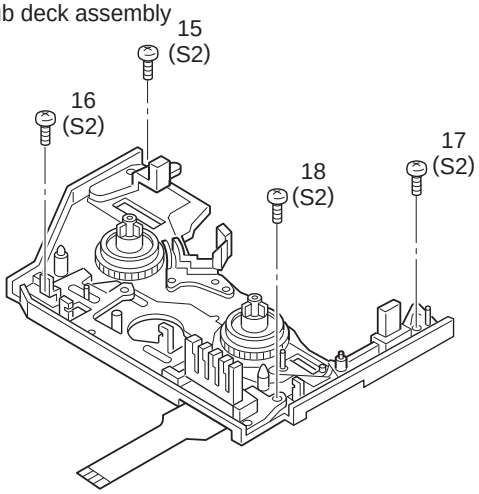
S3, P2, L9, W2

⑧ Tension arm sub assembly



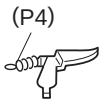
P3

⑪ Sub deck assembly



S2×4

⑫ Main Brake(Sup) assembly



P4, L10

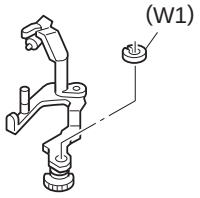
⑬ Main Brake(Take up) assembly

P5, L11

⑭ Reel disk assembly (Sup)

⑮ Reel disk assembly (Take up)

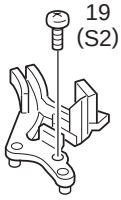
⑨ EXIT guide arm assembly



W1

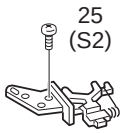
⑩ Swing arm assembly

⑯ Prism



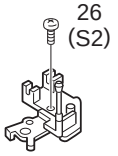
S2

⑳ Base plate assembly



S2, L14×2

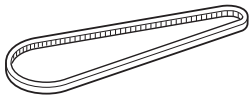
㉑ Ent. guide base assembly



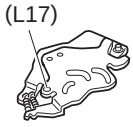
S2

㉒ Worm wheel 2

㉓ Timing belt

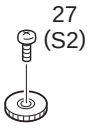


㉛ Charge arm assembly



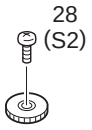
L17

㉜ Connect gear 2



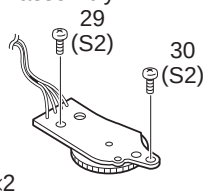
S2

㉝ Connect gear 2



S2

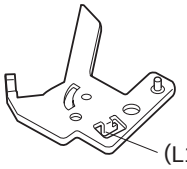
㉞ Rotaly encoder assembly



S2×2

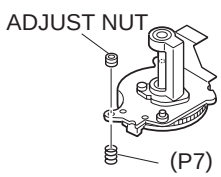
㊴ Arm gear 2 assembly

㊵ Clutch lock lever assembly



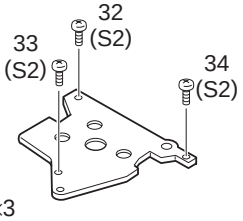
L19

㊶ Capstan motor



ADJUST NUT, P7

㊷ Drum base deck



S2×3

Fig. 2-11-1B

2.12 POSITIONING THE TENSION POLE

See Fig. 2-12-1.

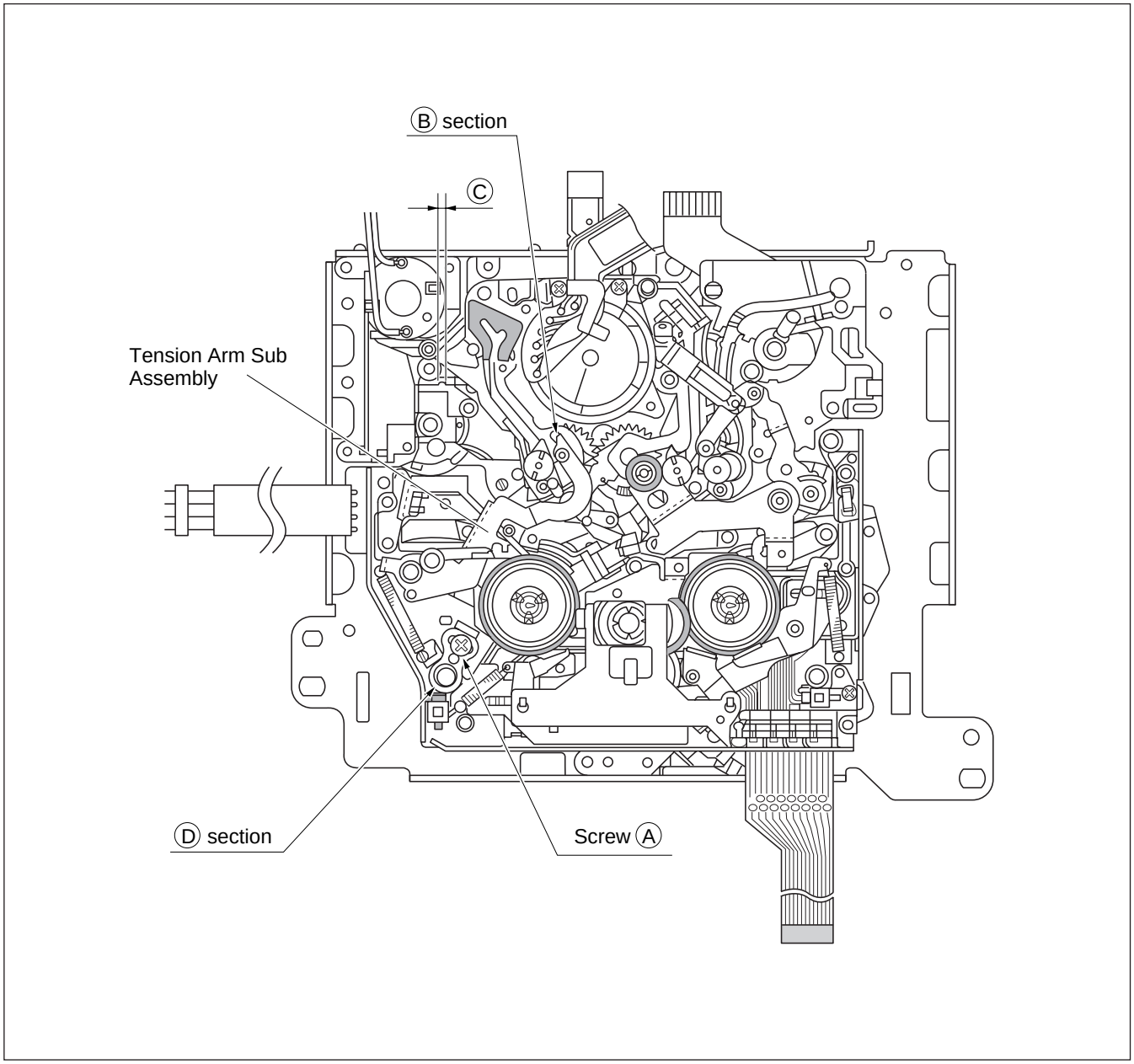


Fig. 2-12-1

Adjustment Method

Note:

• Remove the cassette housing assembly in advance.

1. Set the mechanism mode to the PLAY mode. (See pages 2-20 and 21.)
2. Loosen a screw Ⓐ.
3. Check the location of the tip (section Ⓑ) of the tension arm assembly to make sure that it is within area Ⓒ . If it is located outside, turn part Ⓓ to bring it within the specified area.
4. Tighten the screw Ⓐ.

Note : ***Tightening torque for the screwⒶ : 0.06 Nm (0.6 kgfcm)***

2.13 COMPATIBILITY AND ERROR RATE ADJUSTMENTS

2.13.1 Preparation

Before disassembly and adjustment, back up the data stored in the EEPROM (IC1504 on the DV MAIN board) using the Service Support System Software (SSS software).

Table 2-18-1 shows the important service points for the compatibility and error rate adjustments.

Adjustment Item / Service Point	Linearity Adjustment	PB Switching Point Adjustment	Error Rate Adjustmenmt
Drum replacement	Required Note 1	Required	Required
Transport part replacement	Required Note 1	Not	Check
Transport part (drum) repair	Required Note 1	Not	Check
IC4001 (PRE/REC amp on DV MAIN board) replacement	Not	Not	Check
IC2001 (PB. EQ on DV MAIN board) replacement	Not	Not	Required
DV MAIN board replacement Note 2	Not	Required	Required

Table 2-13-1

Note 1 :

• The linearity adjustment is required only after servicing or replacing the drum or the take up/supply guide rail.

Note 2 :

• After replacing the DV MAIN board, write the original data in the EEPROM of the new board. If write communication is not possible, mount the original EEPROM on the new board.

When adjustments of more than one item are required, use the following order for the adjustments.

2.18.3 Linearity Adjustment
↓
2.18.4 PB Switching Point Adjustment
↓
2.18.5 Error Rate Adjustment

2.13.2 Adjustment

The actual adjustment requires the following preparation.

1. Tools required for adjustment

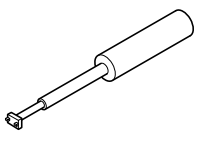
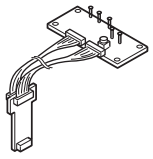
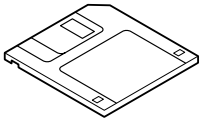
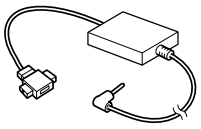
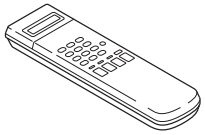
Alignment tape US : MC-1 PAL : MC-2	Guide driver YTU94085	Jig connector cable PTU94018B
		
SSS software PTU94016-4	PC cable US : QAM0099-002 PAL : QAM0099-005	Jig RCU PTU94023B
		

Fig. 2-13-1

2. Procedure

1. Take out the 6 screws, then remove the top cover. (See Fig. COM1 on page 1-2 of section 1.4.)
2. Connect the jig connector cable to CN2001 on the DV MAIN board.

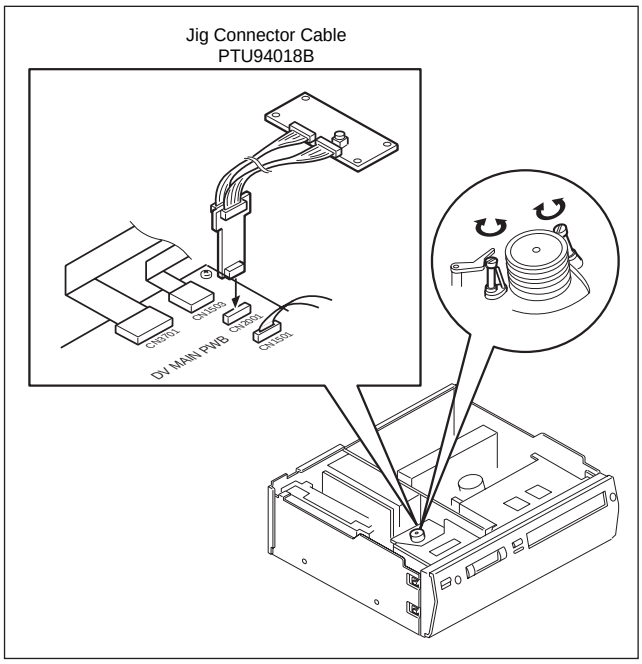


Fig. 2-13-2

3. Setup for computer adjustment

– Setup by extending the jig connector –

When performing the adjustment by the SSS software, set the VCR to JIG mode by transmitting the code "menu", "2", "8", and "OK" in order from the Jig RCU, and set the VCR to external communication mode by transmitting the code "8C" from the Jig RCU.

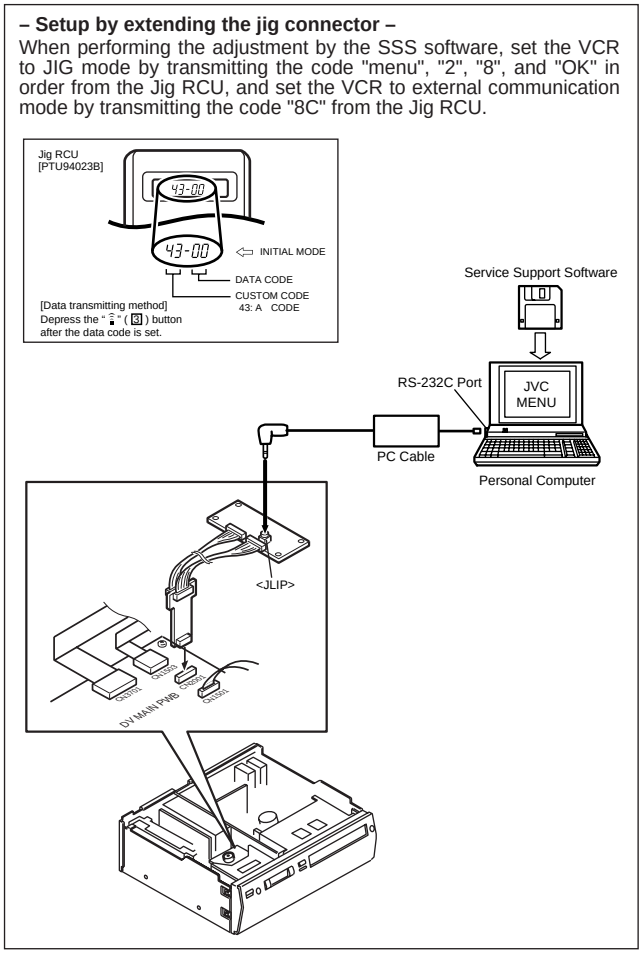
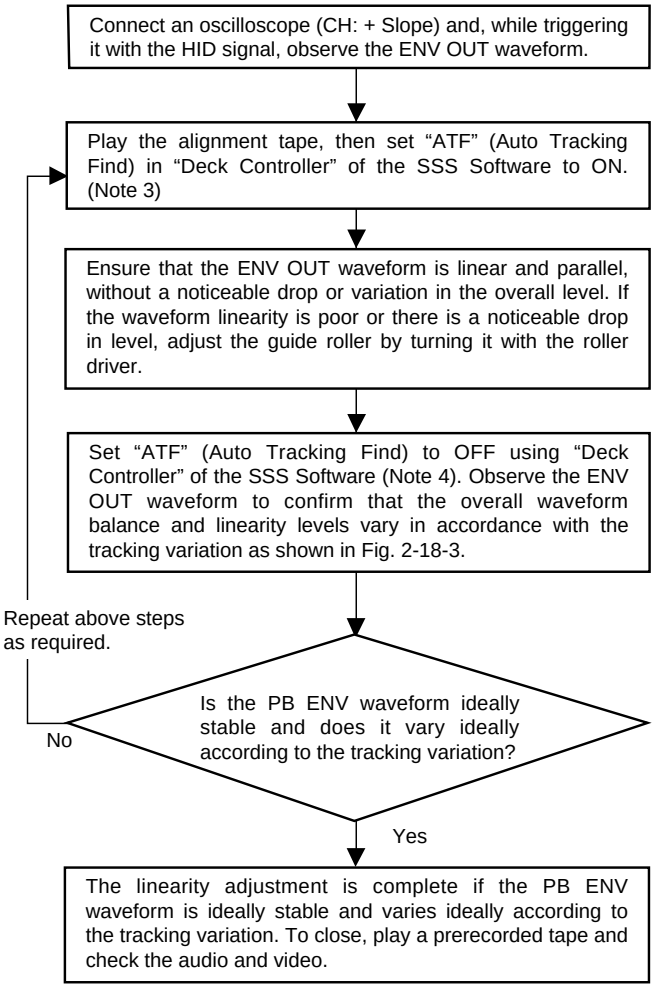


Fig. 2-13-3

2.13.3 Linearity adjustment

The following flowchart shows the linearity check/adjustment procedure.


Connect an oscilloscope (CH: + Slope) and, while triggering it with the HID signal, observe the ENV OUT waveform.
Play the alignment tape, then set “ATF” (Auto Tracking Find) in “Deck Controller” of the SSS Software to ON. (Note 3)
Ensure that the ENV OUT waveform is linear and parallel, without a noticeable drop or variation in the overall level. If the waveform linearity is poor or there is a noticeable drop in level, adjust the guide roller by turning it with the roller driver.
Set “ATF” (Auto Tracking Find) to OFF using “Deck Controller” of the SSS Software (Note 4). Observe the ENV OUT waveform to confirm that the overall waveform balance and linearity levels vary in accordance with the tracking variation as shown in Fig. 2-18-3.
Repeat above steps as required.
Is the PB ENV waveform ideally stable and does it vary ideally according to the tracking variation?
No
Yes
The linearity adjustment is complete if the PB ENV waveform is ideally stable and varies ideally according to the tracking variation. To close, play a prerecorded tape and check the audio and video.

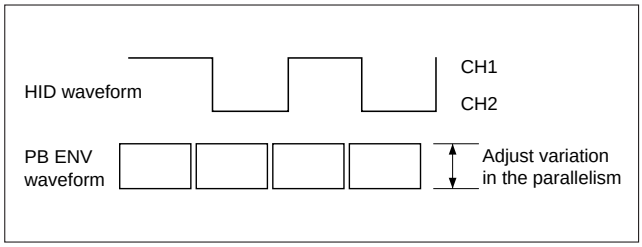


Fig. 2-18-4 PB ENV Waveform

Note 3 :

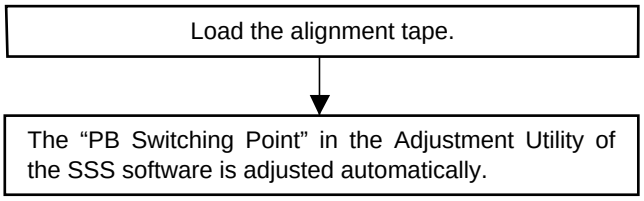
- The VHS section has an A/C head, and the first tracking position can be locked using the CTL pulse and drum FF when AT is off. Therefore, the linearity of the VHS section can usually be adjusted with AT off. However, this adjustment method is not available with the DV section, which does not have the A/C head. If ATF is turned off, the DV section performs tracking only of the speed system. Therefore, as time passes, the servo will be lost and the linearity adjustment will become difficult.

Note 4 :

- Since the speed servo function is active when ATF is off, there will be no problem even if the DVC ATF function is off, provided that it is for a few minutes.

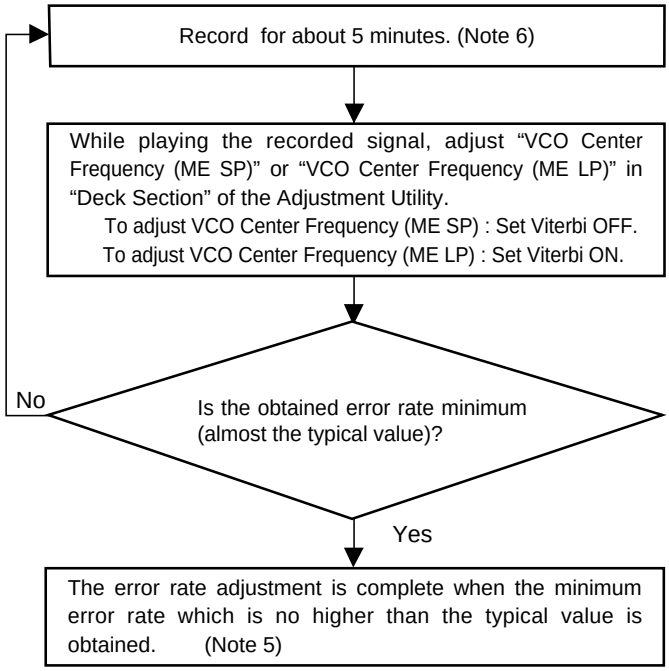
2.13.4 PB switching point adjustment

The following flowchart shows the PB switching point adjustment procedure.


Load the alignment tape.
The “PB Switching Point” in the Adjustment Utility of the SSS software is adjusted automatically.

2.13.5 Error rate adjustment

The following flowchart shows the error rate adjustment procedure.


Record for about 5 minutes. (Note 6)
While playing the recorded signal, adjust “VCO Center Frequency (ME SP)” or “VCO Center Frequency (ME LP)” in “Deck Section” of the Adjustment Utility.
To adjust VCO Center Frequency (ME SP) : Set Viterbi OFF.
To adjust VCO Center Frequency (ME LP) : Set Viterbi ON.
Is the obtained error rate minimum (almost the typical value)?
No
Yes
The error rate adjustment is complete when the minimum error rate which is no higher than the typical value is obtained. (Note 5)

Note 5 :

- The “typical value” refers to the following:
  CH1 or CH2: < 498.; with Viterbi OFF. Inter-channel difference: < 10 times between CH1 and CH2.

Note 6 :

- It is desirable to use a brand-new tape or an unused section of tape. This is to assure the adjustment reliability because using a damaged tape increases the error rate.

2.13.6 Error rate measuring method

It is not necessary to use the error rate jig (YTU93083) or a frequency counter. The Service Support System Software displays the error rates of video CH1, CH2 and totals. When measuring the error rate of a channel, be sure to total the values of the video and the audio errors.

2.14 TAPE EJECTION

If a loaded cassette tape cannot be ejected due to a failure in the electrical circuitry, take the cassette tape out using the following procedure.
However, this method consists of a forced driving of the loading motor. Therefore, the following description assumes that there is no trouble in the mechanism operations.

1. Unplug the power plug from the power outlet, then remove the top cover.
2. Apply 3 V DC to the electrodes (Red wire: + pole. Brown wire: - pole) on the upper part of the loading motor to perform the unloading operation so that the pole base assemblies are returned on the inner side of the tape. At this time, the exit guide arm assembly should return toward the drum assembly and the mechanism should enter the C-IN mode.
   As the tape is left without winding, be careful not to damage the tape or leave grease on it.
3. If the tape is slack, wind it up by turning the shaft on the topside of the capstan motor in the direction of the arrow using a pointed tool (chip IC replacement jig).
   This operation may be difficult because the shaft is located below the housing motor of the cassette housing assembly. Be careful not to damage parts during it.
4. After confirming that the tape is fully wound up, take out the cassette tape by turning the gear of the cassette housing assembly in the direction of the arrow.

Note :

- ***After ejecting the tape, check that grease or similar foreign material is not attached to the wound tape. Also perform similar checking for the mechanism assembly, particularly the tape transport system.***

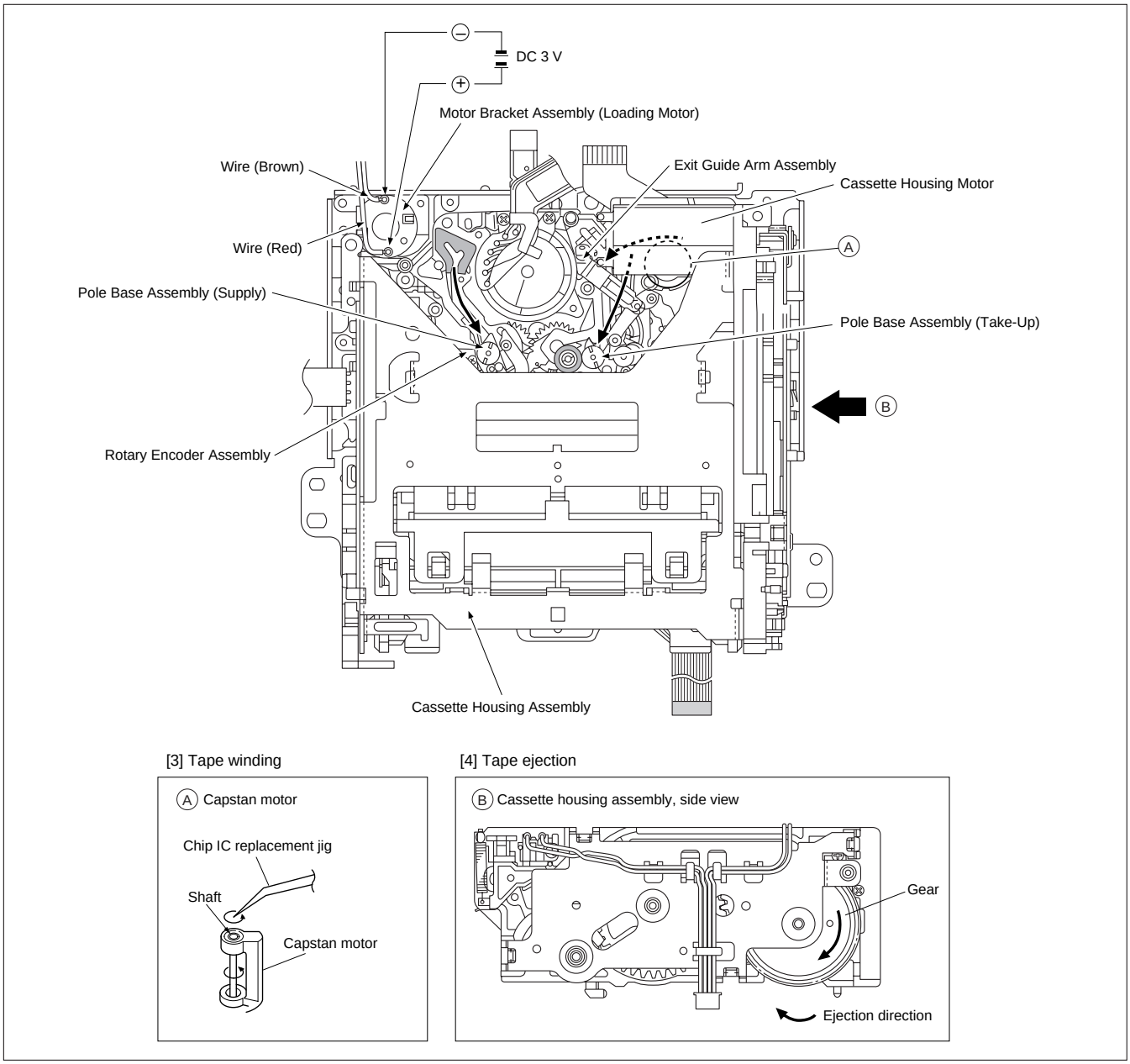


Fig. 2-14-1

SECTION 3
ELECTRICAL ADJUSTMENT (VHS)

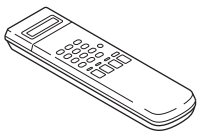
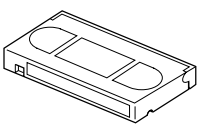
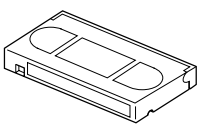
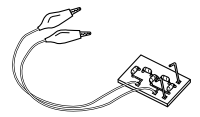
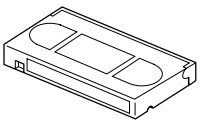
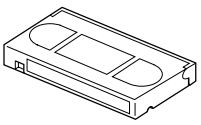
3.1 Precaution

The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.
In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, etc.) carelessly.

3.1.1 Required test equipments

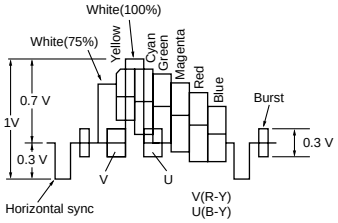
- Color (colour) television or monitor
- Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- Frequency counter
- Audio level meter
- Signal generator: RF / IF sweep / marker
- Signal generator: stairstep, color (colour) bar [PAL]
- Recording tape (VHS/SVHS)
- Digit-key remote controller (provided)

3.1.2 Required adjustment tools

Jig RCU PTU94023B	Alignment tape (SP, stairstep, PAL) MHPE	Alignment tape (LP, stairstep, PAL) MHPE-L
		
LPF PTU93006	Alignment tape (S-VHS, SP/LP, color (colour) bar) MH-2H	Alignment tape (SP, stairstep, NTSC) MHP
		

3.1.3 Color (colour) bar signal,Color (colour) bar pattern

• Color(colour) bar signal [PAL]



• Color(colour) bar pattern [PAL]

3.1.4 Switch settings and standard precautions

The SW settings of the VCR and the standard precautions for the electrical adjustments are as follows.

- **When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 1 DISASSEMBLY.)**

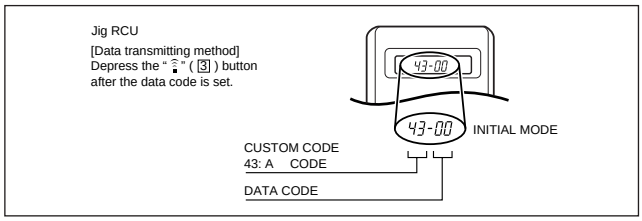


Fig. 3-1-4a Jig RCU [PTU94023B]

- **Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.**
  If the VCR is not equipped with the functions detailed below, setup is not required.

AUTO PICTURE/VIDEO CALIBRATION/ B.E.S.T./D.S.P.C.	OFF
PICTURE CONTROL/SMART PICTURE	NORMAL/NATURAL
VIDEO STABILIZER	OFF
TBC	ON
Digital 3R	ON
VIDEO NAVIGATION/TAPE MANAGER	OFF

- **If there is a reference to a signal input methed in the signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.**
- **Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.**

3.1.5 EVR Adjustment

Some of the electrical adjustments require the adjustment performed by the EVR system. The main unit have EEPROMs for storing the EVR adjustment data and user setups.

Notes:

- ***In the EVR adjustment mode, the value is varied with the channel buttons (+, –). The adjusted data is stored when the setting mode changes (from PB to STOP, when the tape speed is changed, etc.). Take care to identify the current mode of each adjustment item when making an adjustment.***
- ***When changing the address setting in the EVR adjustment mode, use the Jig RCU or the remote controller having numeric keypad with which a numeric code can be directly input.***
  The remote control code of the Jig RCU corresponds to each of the digit keys on the remote controller as follows.

Digit-key	0	1	2	3	4	5	6	7	8	9
Code	20	21	22	23	24	25	26	27	28	29

- ***As the counter indication and remaining tape indication are not displayed FDP during the EVR adjustment mode, check them on the TV monitor screen.***
- ***When performing the EVR adjustment, confirm that the FDP indication is changed to the EVR mode, as shown below.***

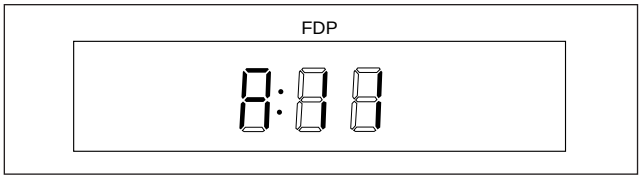


Fig. 3-1-5a EVR mode

3.2 Servo circuit

3.2.1 Switching point

Signal	(A1) (A2) (A3)	• Stairstep signal • Alignment tape(SP, stairstep, PAL) [MHPE] • Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB • TBC: OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• VIDEO OUT terminal (75Ω terminated) • TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)/slope : –
Adjustment part	(F)	• Jig RCU: Code “51” or “52”
Specified value	(G)	• 8.0 ± 0.5H [MHPE] • 7.5 ± 0.5H [MHP]
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
(3) Set the VCR to the manual tracking mode.
(4) Adjust tracking so that the V.PB FM waveform becomes maximum.
(5) Transmit the code (F) from the Jig RCU to adjust so that the trigger point of the VIDEO OUT waveform is changed from the trailing edge of the V.sync signal becomes the specified value (G).
(6) Set the VCR to the stop mode or eject mode.
(7) Play back the signal (A1) of the alignment tape (A3).
(8) Repeat steps (2) to (6).

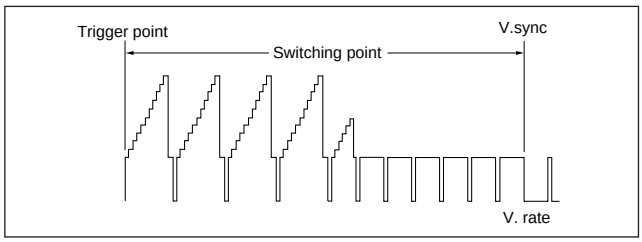


Fig. 3-2-1a Switching point

3.2.2 Slow tracking preset

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [PAL]
Mode	(B1) (B2)	• VHS SP • VHS LP
Measuring point	(D)	• TV-Monitor
Adjustment part	(F)	• Jig code “71“ or “72”
Specified value	(G)	• Minimum noise
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(2) Set the VCR to the manual tracking mode.
(3) Set the VCR to the FWD slow (+1/6x) mode.
(4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
(5) Set the VCR to the Stop mode.
(6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
(7) Repeat steps (3) to (6) in the REV slow (–1/6x) mode.
(8) Repeat steps (1) to (7) in the mode (B2).

Note:

- **For FWD slow (+1/6x) playback, transmit the code “08” from the Jig RCU to enter the slow playback mode, and transmit the code “D0” for REV slow (–1/6x) mode.**

3.3 Video circuit

3.3.1 D/A level

Signal	(A1) (A2) (A3)	• Ext. S-input / Ext. input • Color (colour) bar signal [PAL] • S-VHS tape
Mode	(B)	• S-VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
Adjustment part	(F)	• VR1401 (D/A LEVEL ADJ) [3D TBC/2M board]
Specified value (Note)	(G)	• 1.00 ± 0.015 Vp-p (reference value)

(1) Insert the cassette tape (A3) to enter the mode (B).
(2) Observe the Y OUT waveform at the measuring point (D).
(3) Check the Y level value when the External S-input (Y/C separated video signal).
(4) Switch the input signal to the External input (composite video signal), and adjust the adjustment part (F) so that the Y level becomes the same value observed in step (3).

Note:

- ***The specified value (G) is just a reference value to be obtained when the External S-Video (Y/C separated video) signal is input. In actual adjustment, set it to the value observed in step (3).***

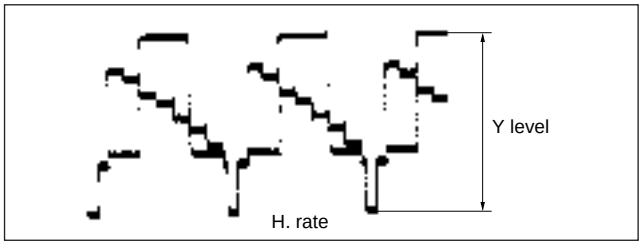


Fig. 3-3-1a D/A level

3.3.2 EE Y/PB Y (S-VHS/VHS) level

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [PAL]
Mode	(B1) (B2) (B3)	• EE • S-VHS SP • VHS SP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• Y OUT terminal (75Ω terminated)
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 11 • Jig code “21” twice • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• 1.00 ± 0.03 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Set the VCR to the mode (B1).
(2) Observe the Y OUT waveform at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the Y level of the Y OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

(7) Record the signal (A2) in the mode (B2), and play back the recorded signal.
(8) Set the VCR to the manual tracking mode.
(9) Repeat steps (1) to (5) in the mode (B2).
(10) Record the signal (A2) in the mode (B3), and play back the recorded signal.
(11) Set the VCR to the manual tracking mode.
(12) Repeat steps (1) to (5) in the mode (B3).

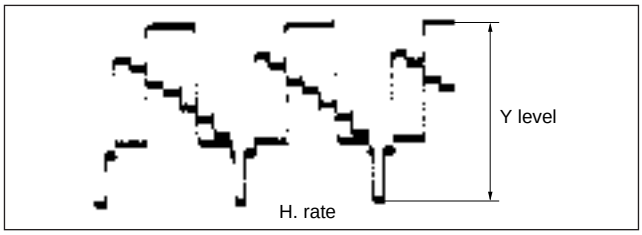


Fig. 3-3-2a EE/PB Y level

3.3.3 REC color (colour) level

Signal	(A1)	• Alignment tape(S-VHS, SP/LP, Color(colour) bar) [MH-2H]
	(A2)	• Ext. input
	(A3)	• Color (colour) bar signal [PAL]
Mode	(B1)	• S-VHS SP
	(B2)	• S-VHS LP
Equipment	(C)	• Oscilloscope
Measuring point	(D1)	• TP106 (PB. FM)
	(D2)	• PB color (colour) output of the LPF
External trigger	(E)	• TP111 (D.FF)
EVR mode	(F1)	• Jig code “57”
EVR address	(F2)	• A : 02
	(F3)	• Jig code “20” and “22”
	(F4)	• Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• SP: “B” x 125 ± 5%
		• LP: “B” x 125 ± 5%
Adjustment tool	(H1)	• Jig RCU [PTU94023B]
	(H2)	• LPF [PTU93006] (See Fig. 3-3-3a.)

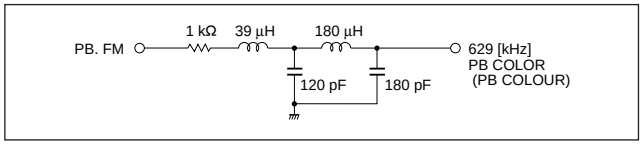


Fig. 3-3-3a LPF

(1) Connect the adjustment tool (H2) to the measuring point (D1).
(2) Apply the external trigger signal to D.FF (E) to observe the PB color (colour) waveform at the measuring point (D2).
(3) Play back the signal (A3) in the mode (B1) of the alignment tape (A1).
(4) Set the VCR to the manual tracking mode.
(5) Adjust tracking so that the PB color (colour) waveform becomes maximum. Make a note of the higher PB color (colour) level as “B” at this time.
(6) Record the signal (A3) in the mode (B1), and play back the recorded signal.
(7) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(8) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(9) Transmit the code (F4) from the Jig RCU to adjust so that the higher level channel becomes the specified value (G) of the note "B" level as shown in Fig. 3-3-3b. (Adjust before recording, then confirm it by playing back.)
(10) After adjustment, record the signal (A3) then playing it back again. At this time, confirm that there is no inverting phenomenon or noise appearing on the playback screen.
(11) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(12) Repeat steps (3) to (11) in the mode (B2).

Note:

- ***After adjusting, always perform the confirmation and re-adjustment of the item 3.4.1.***

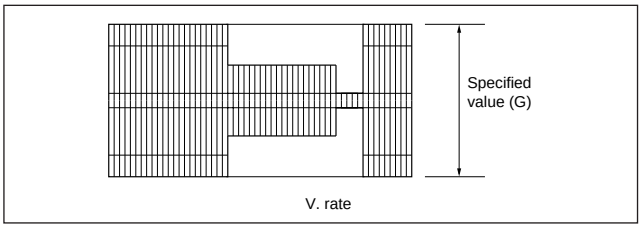


Fig. 3-3-3b REC color (colour) level

3.3.4 Video EQ (Frequency response)

Signal	(A1)	• Ext. S-input
	(A2)	• Video sweep signal
Mode	(B1)	• S-VHS SP
	(B2)	• S-VHS LP
	(B3)	• Picture Control / Smart Picture REC : Normal / Natural PB : Edit / Distinct
Equipment	(C)	• Oscilloscope
Measuring point	(D1)	• Y OUT terminal (75Ω terminated)
Frequency marker	(D2)	• 3 [MHz]
External trigger	(E)	• TP111 (D.FF)
EVR mode	(F1)	• Jig code “57”
EVR address	(F2)	• A : 03
	(F3)	• Jig code “20” and “23”
	(F4)	• Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• SP: 3.6 ± 0.4 div. (–1 ± 1 dB)
		• LP: 3.2 ± 0.4 div. (–2 ± 1 dB)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Apply the external trigger signal to D.FF (E) to observe the Y OUT waveform at the measuring point (D1).
(2) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(3) Set the VCR to the manual tracking mode.
(4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(5) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(6) Set the slope of the oscilloscope to the channel having higher (D2) marker level of the Y OUT waveform [signal (A2)]. Then set the 100 kHz marker level to the “4” scale on the oscilloscope. In this condition, transmit the code (F4) from the Jig RCU to adjust so that the (D2) marker level reaches the specified value (G).
(7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(8) Repeat steps (2) to (7) in the mode (B2).

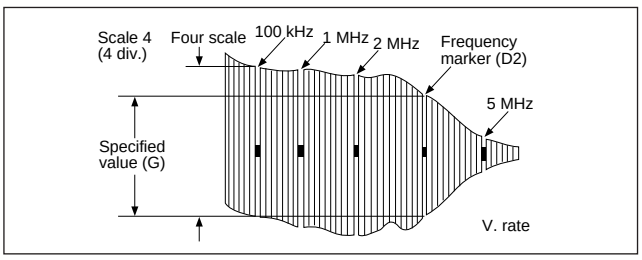


Fig. 3-3-4a Video EQ (Frequency Response)

3.3.5 Auto picture initial setting

Signal	(A1) (A2) (A3)	• Ext. input • Video: Optional • VHS tape
Mode	(B)	• EE → Auto adjust (SP/LP REC → PB)
Adjustment part	(F)	• Jig code “58”
Specified value	(G)	• STOP mode
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3).
(2) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed. When the VCR enters the eject mode, repeat steps (1) to (2) again.

3.3.6 DV EE Y level

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [PAL]
Mode	(B)	• VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP701 (DV AGC)
Adjustment part	(F)	• VR701 (DV AGC)
Specified value	(G)	• 1.00 ± 0.02 Vp-p

(1) Observe the VIDEO OUT waveform at the measuring point (D).
(2) Adjust the adjustment part (F) so that the Y level of the VIDEO OUT waveform becomes the specified value (G).

Note:

- **After adjusting, always perform the confirmation and re-adjustment of the Electrical adjustment (DV).**

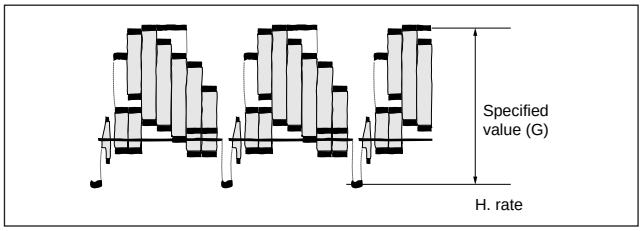


Fig. 3-3-6a DV EE Y level

3.4 Audio circuit

Notes:

- ***This adjustment should be done after the “REC color (colour) level adjustment” for the video circuit has been completed.***
- ***GND (Ground) should be taken from the Tuner shield case.***

3.4.1 Audio REC FM

Signal	(A1) (A2) (A3)	• Ext. input • Audio: No signal • Video: Color (colour) bar signal [PAL]
Mode	(B)	• S-VHS LP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP2253 (A. PB. FM)
External trigger	(E)	• TP111 (D.FF)
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 30 • Jig code “23” and “20” • Jig code “18” or “19” (Channel +/-)
Specified value	(G1) (G2)	• 400 ± 100 mVp-p • More than 250 mVp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Apply the external trigger signal to D.FF (E) to observe the Audio PB FM waveform at the measuring point (D).
(2) Record the signal (A3) with no audio signal input in the mode (B), and play back the recorded signal.
(3) Set the VCR to the manual tracking mode.
(4) If the A.PB FM level is not within the specified value (G1), perform the adjustment in a following procedure.
(5) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(6) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(7) Transmit the code (F4) from the Jig RCU to adjust so that the A.PB FM level of the higher channel level becomes the specified value (G1). (Adjust before recording, then confirm it by playing back.)
(8) If the specified value (G1) is not obtained, transmit the code (F4) from the Jig RCU to adjust so that the waveform level of the lower channel level becomes the specified value (G2). (Adjust before recording, then confirm it by playing back.)
(9) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

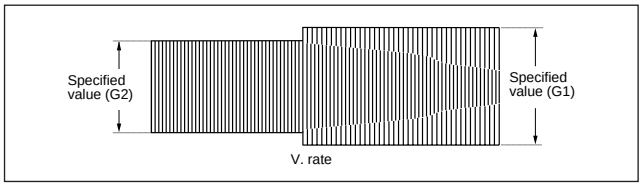


Fig. 3-4-1a Audio REC FM

3.5 Syscon circuit [HR-DVS3EU]

Note:

- **When perform this adjustment, remove the Mechanism assembly.**

3.5.1 Timer clock

Signal	(A)	• No signal
Mode	(B)	• EE
Equipment	(C)	• Frequency counter
Measuring point Short point	(D1) (D2) (D3)	• IC3001 pin 61 • IC3001 pin 24 • C3026 + and –
Adjustment part	(F)	• C3025 (TIMER CLOCK)
Specified value	(G)	• 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 µsec)

(1) Connect the frequency counter to the measuring point (D1).
(2) Connect the short wire between the short point (D2) and Vcc (5V).
(3) Short the leads of capacitor (D3) once in order to reset the microprocessor of the SYSCON.
(4) Disconnect the short wire between the short point (D2) and Vcc then connect it again.
(5) Adjust the Adjustment part (F) so that the output frequency becomes the specified value (G).

ELECTRICAL ADJUSTMENT (DV)

3.6 PREPARATION

3.6.1 Precautions

(1) The DV section of this model is based on a special adjustment method using a PC. However, ordinary adjustment is required only when the part listed below has been replaced. In this case, the adjustment should be performed by a service center equipped with the required facilities.

• E^2 PROM (IC1504 on DV main board)

In case of trouble with the electrical circuitry, First identify the faulty position with a measuring tool as described below. Proceed to repair, replacement and/or adjustment only after the troubleshooting.

(2) When observing a chip TP, use an IC clip or similar tool to protect the chip against stress. When replacing a chip part (IC, particularly), remove solder completely before replacing. (This is to prevent separation of the pattern.)

(3) The connectors are fragile. Be careful when plugging or unplugging a wire.

3.6.2 Equipment required for adjustment

① Personal computer (Windows compatible)
② Color monitor
③ Oscilloscope (2-CH, 100 MHz or more)
④ Frequency counter

3.6.3 Tools required for adjustments

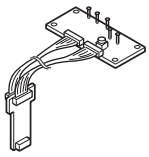
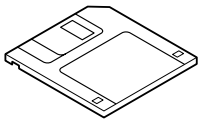
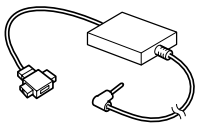
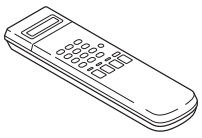
Alignment tape US : MC-1 PAL : MC-2	Jig connector cable PTU94018B	SSS software PTU94016-4
		
PC cable US : QAM0099-002 PAL : QAM0099-005	Jig RCU PTU94023B	
		

Fig. 3-6-3a

3.6.4 Setup

1. Setup for computer adjustment

— Setup by extending the jig connector —

When performing the adjustment by the SSS software, set the VCR to JIG mode by transmitting the code "menu", "2", "8", and "OK" in order from the Jig RCU, and set the VCR to external communication mode by transmitting the code "8C" from the Jig RCU.

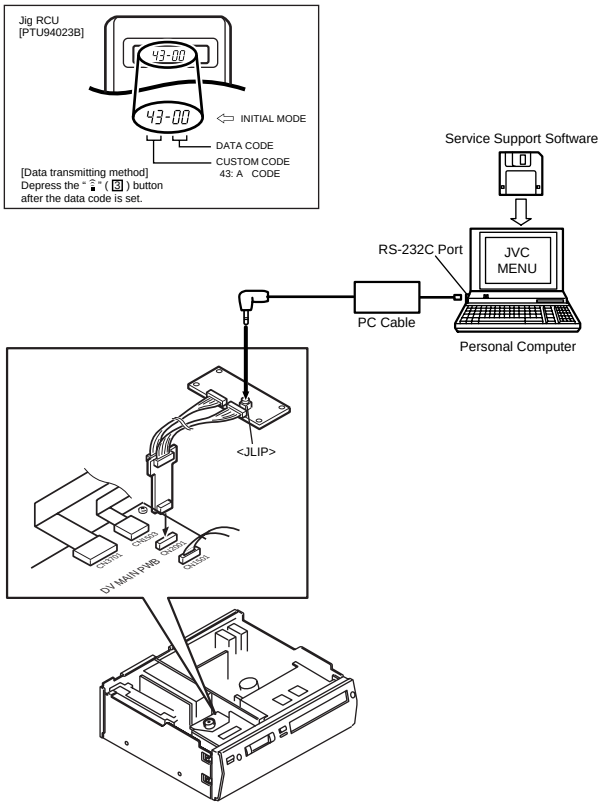


Fig. 3-6-4a Setup for Computer Adjustment

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

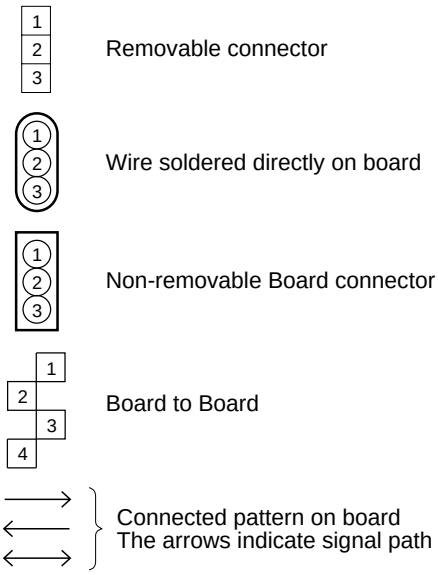
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K or k: kΩ (1000Ω), M: MΩ (1000kΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

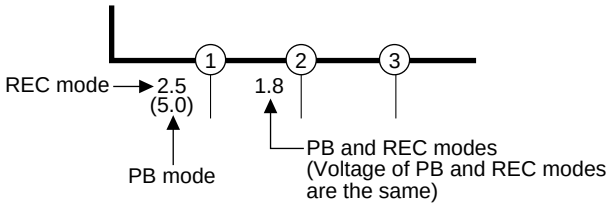
$\overline{\text{AUX}}$ or AUX(L) : Active at low

3. Interpreting Connector indications



4. Voltage measurement

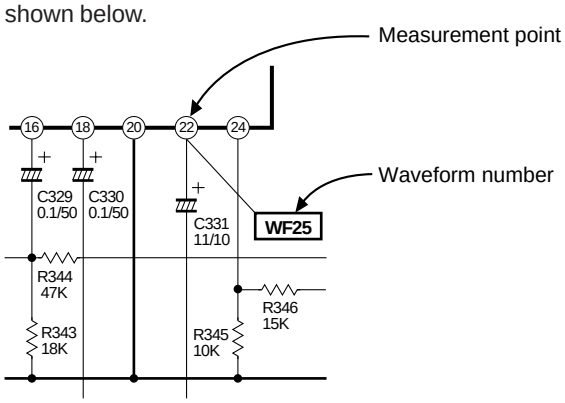
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



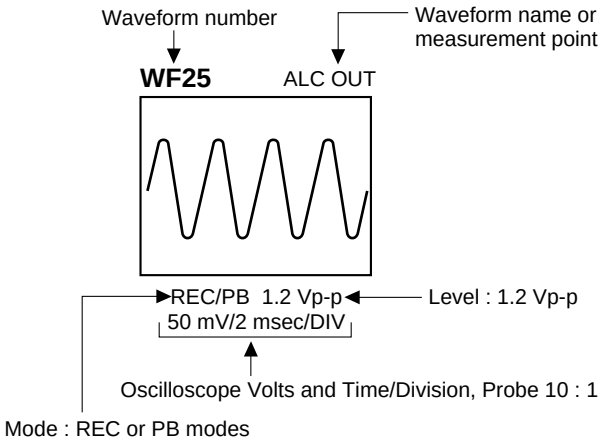
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.



5) Waveform indications



6. Signal path Symbols

The arrows indicate the signal path as follows.

Playback signal path

Playback and recording signal path

Recording signal path
(including E-E signal path)

Capstan servo path

Drum servo path

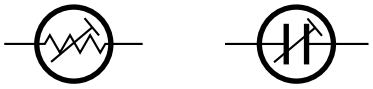
(Example)

R-Y Playback R-Y signal path

Y Recording Y signal path

7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

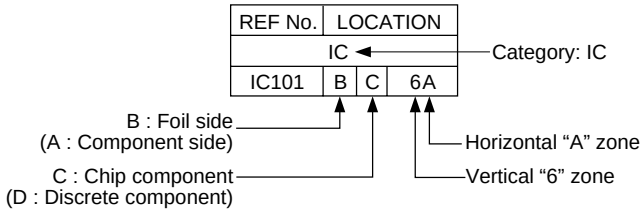
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

Parts location are indicated by guide scale on the circuit board.

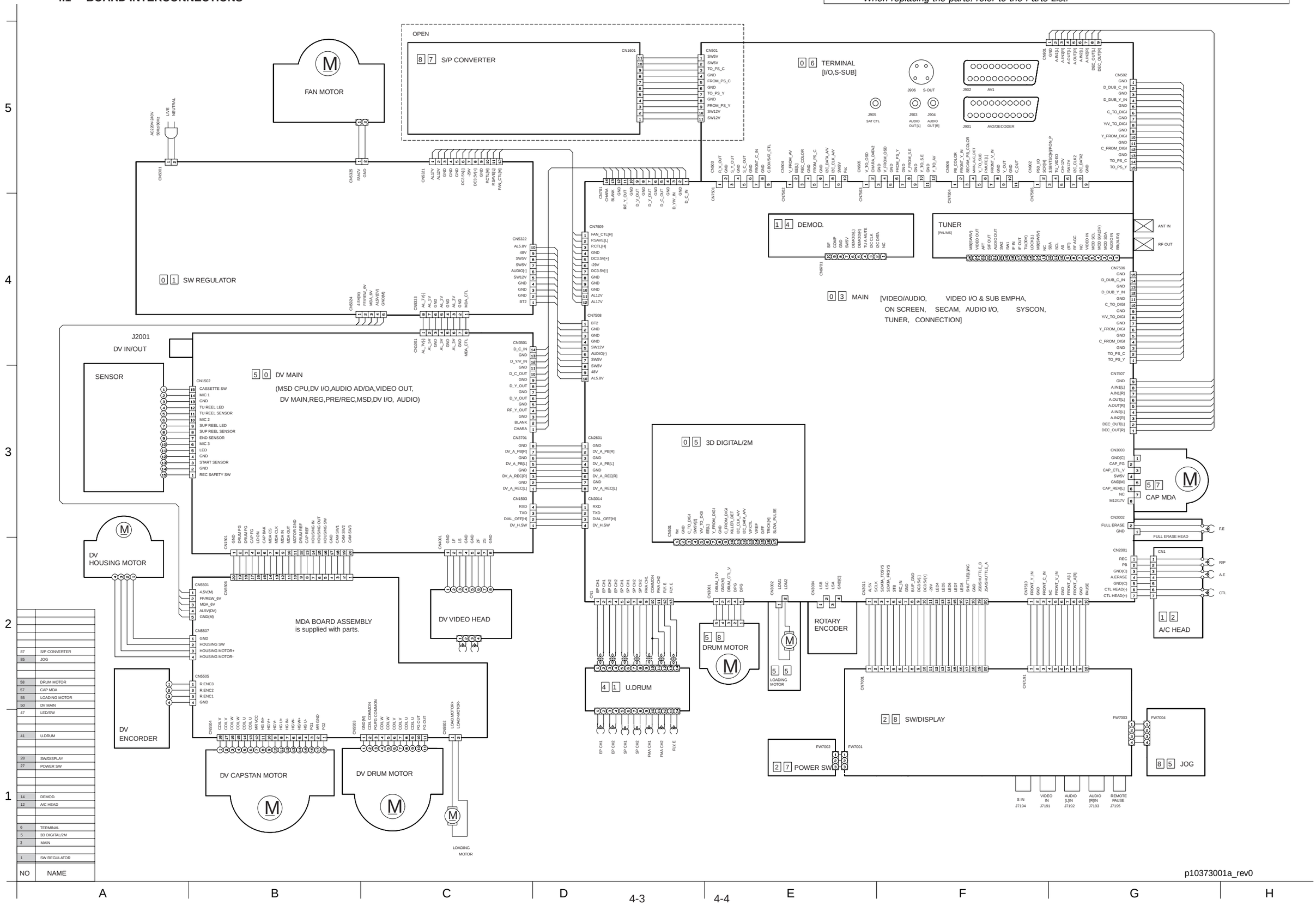


Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

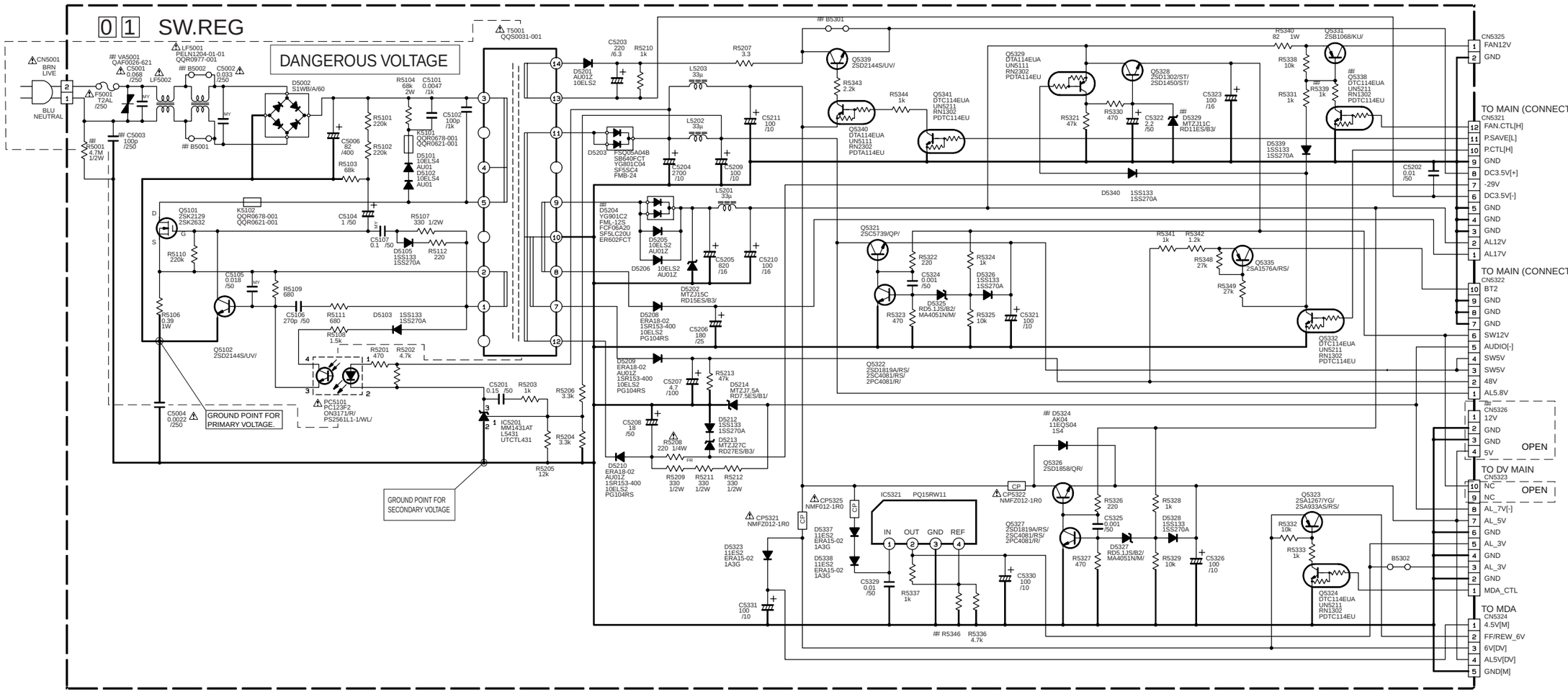


NO	NAME
87	S/P CONVERTER
85	JOG
58	DRUM MOTOR
57	CAP MDA
55	LOADING MOTOR
50	DV MAIN
47	LED/SW
41	U.DRUM
28	SW/DISPLAY
27	POWER SW
14	DEMOD.
12	A/C HEAD
6	TERMINAL
5	3D DIGITAL/2M
3	MAIN
1	SW REGULATOR

p10373001a_rev0

4.2 SWITCHING REGULATOR SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.


01 SW.REG
DANGEROUS VOLTAGE
GROUND POINT FOR PRIMARY VOLTAGE.
GROUND POINT FOR SECONDARY VOLTAGE
CN5001 BRN LIVE / BLU NEUTRAL
CN5325 FAN12V, GND
TO MAIN (CONNECTION) CN5321 FAN.CTL[H], P.SAVE[L], P.CTL[H], GND, DC3.5V[+], -29V, DC3.5V[-], GND, GND, GND, AL12V, AL17V
TO MAIN (CONNECTION) CN5322 BT2, GND, GND, GND, SW12V, AUDIO[-], SW5V, SW5V, 48V, AL5.8V
CN5326 12V, GND, GND, 5V OPEN
TO DV MAIN CN5323 NC OPEN, NC
TO MDA CN5324 4.5V[M], FF/REW_6V, 6V[DV], AL5V[DV], GND[M]
MDA_CTL, AL_3V, GND, AL_3V, GND, AL_5V, GND, AL_7V[-]
IC5201 MM1431AT L5431 UTCTL431
IC5321 PQ15RW11 IN OUT GND REF
B5302
R5346 R5336 4.7k

MARK ELEMENTS ARE NOT MOUNTED

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

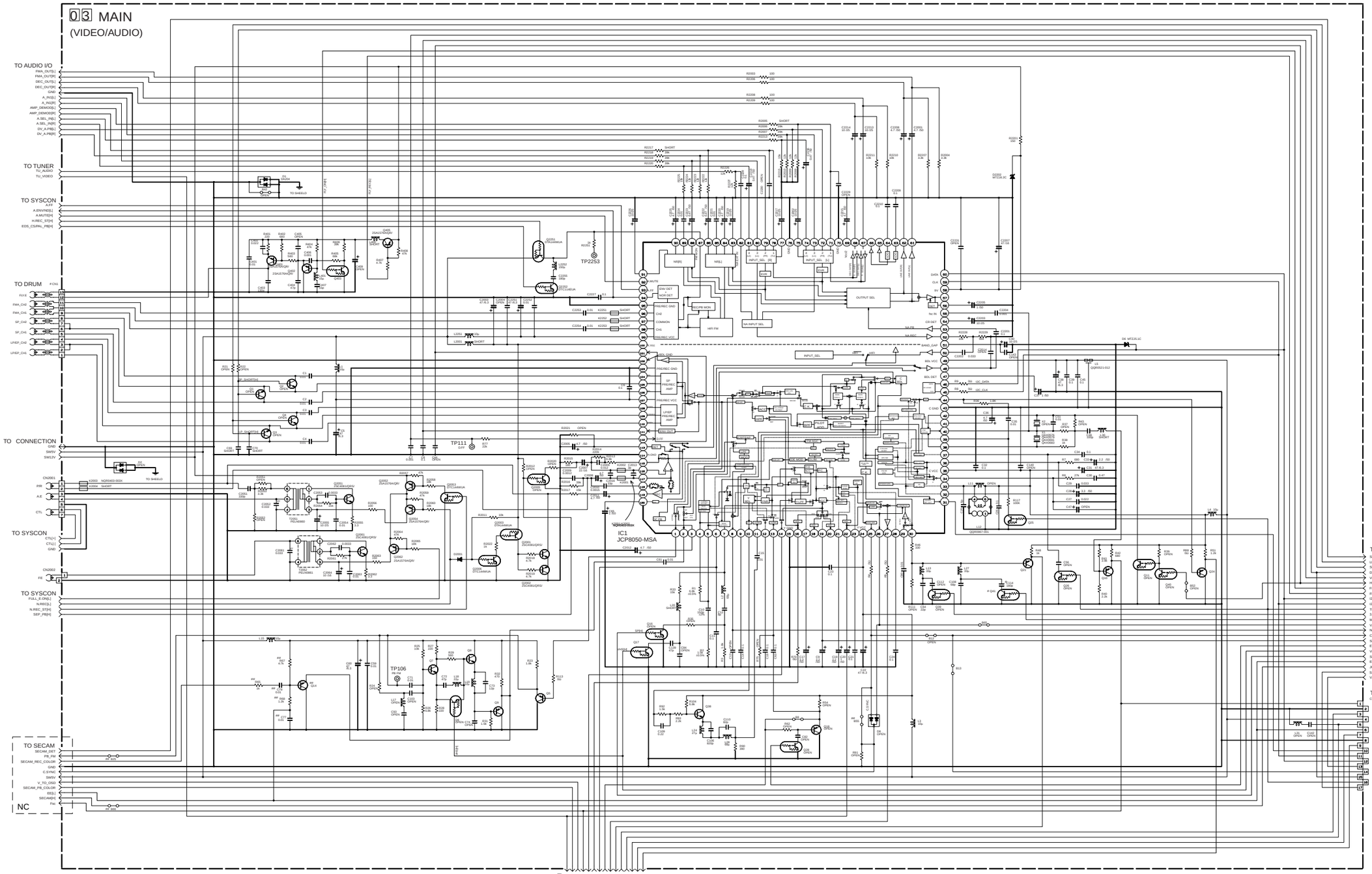
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20237001a_rev1.1

4.3 MAIN (VIDEO/AUDIO) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

03 MAIN
(VIDEO/AUDIO)



DIFFERENCE TABLE

SYMBOL / MODEL	##	Q41, C114	
EU, EU/EA	NO	YES	
EK	NO	NO	
MS	YES	YES	

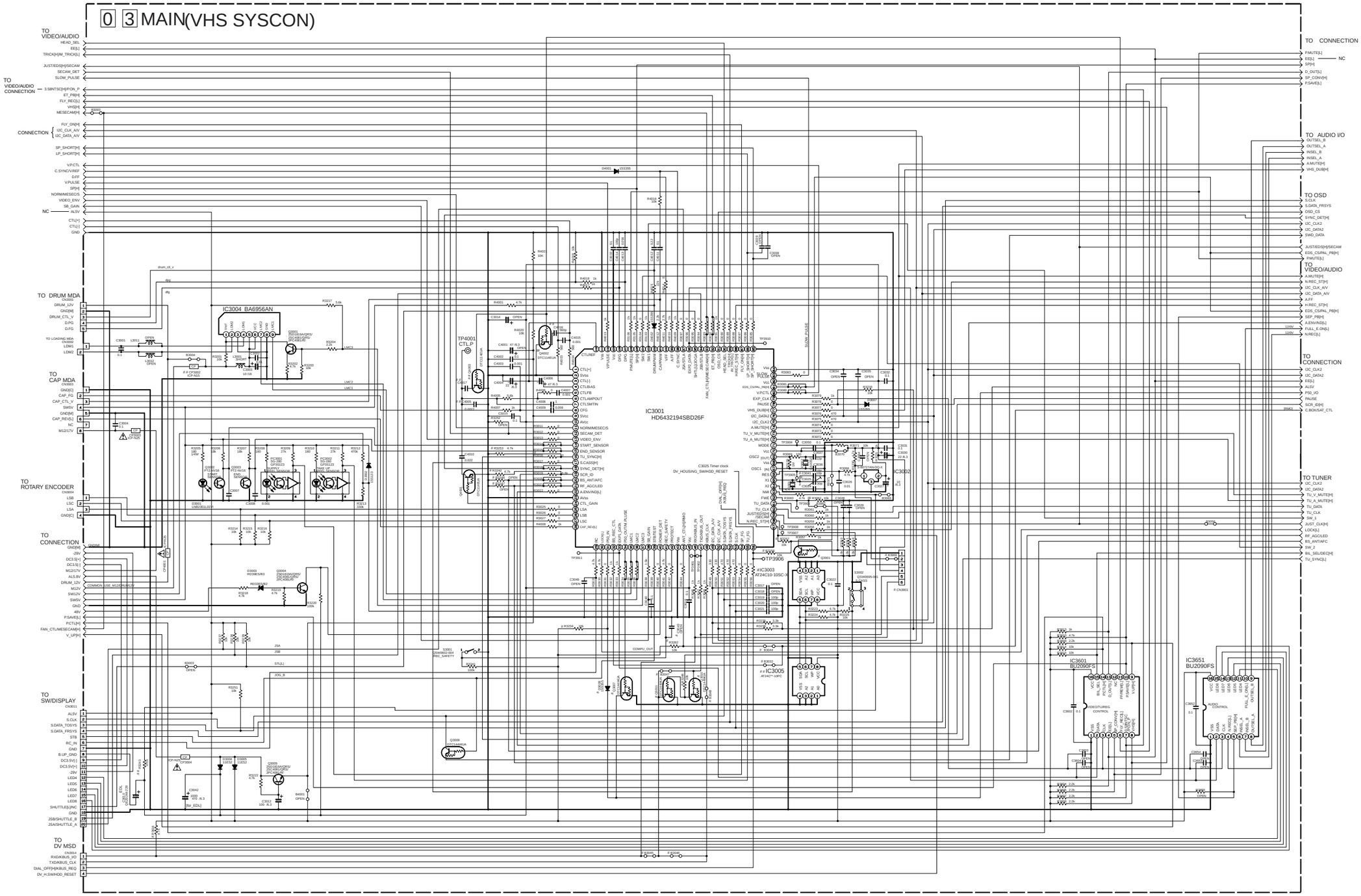
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL NPN TYPE TRANSISTORS ARE 2SC4081/QRS/ or 2SD1819A/QRS/ or 2PC4081/R/.
ALL PNP TYPE TRANSISTORS ARE 2SA1576A/QR/ or 2SB1218A/QR/ or 2PA1576/R/.
ALL NPN TYPE DIGITAL TRANSISTORS ARE DTC144WUA or UN521E or PDTC144WU or RN1309.
ALL PNP TYPE DIGITAL TRANSISTORS ARE DTA144WUA or UN511E or PDTA144WU or RN2309.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC #:OPTION
CERAMIC
MY MYLER
N NON POLAR

p10399001a_rev0

4.4 MAIN (VHS SYSCON) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE

○ Used
× Not used

	X3001	C3024	C3025	C3041	R1234 D3008 Q3007	R3616 R3248 Q3011 Q3012 B3045	B3045 B3047 B3048	R3262 B3032	B3044	CN3901 B3906 Q3901 R3256 R3257	R3253	R3016
EU, EU/EA	QAX0445-001	22p	○	×	○	○	×	×	○	×	×	○
EK	QAX0444-001	12p	×	○	○	○	×	×	○	×	×	○
MS	QAX0444-001	12p	×	○	○	○	×	×	○	×	×	○
U	QAX0444-001	12p	×	×	○	○	×	×	○	×	○	×
DOM	QAX0444-001	12p	×	○	×	○	×	○	×	×	○	×
KR	QAX0444-001	12p	×	○	×	○	×	×	×	×	○	×

##:NOT USED.

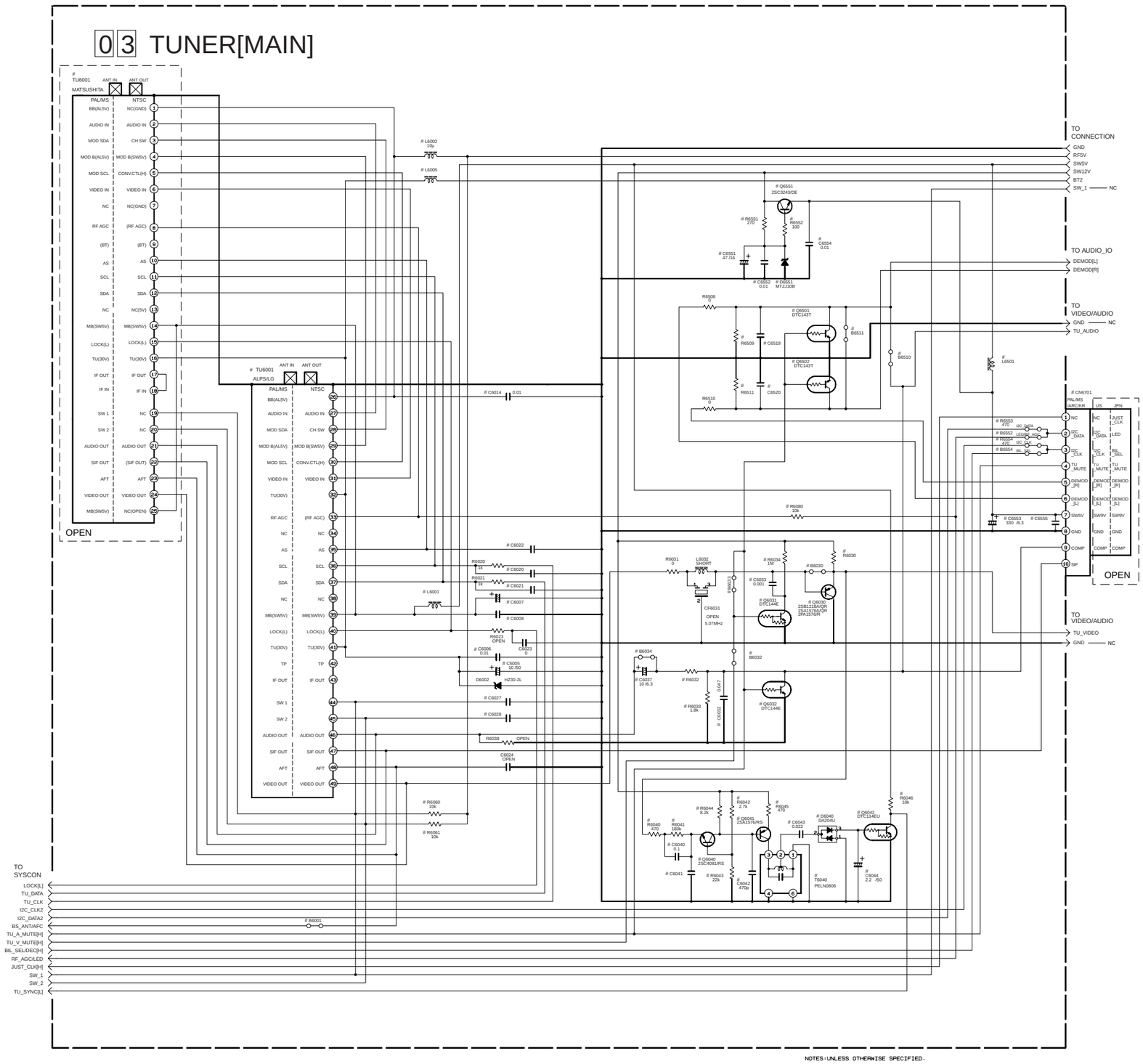
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p10374001a_rev0

4.5 MAIN (TUNER) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



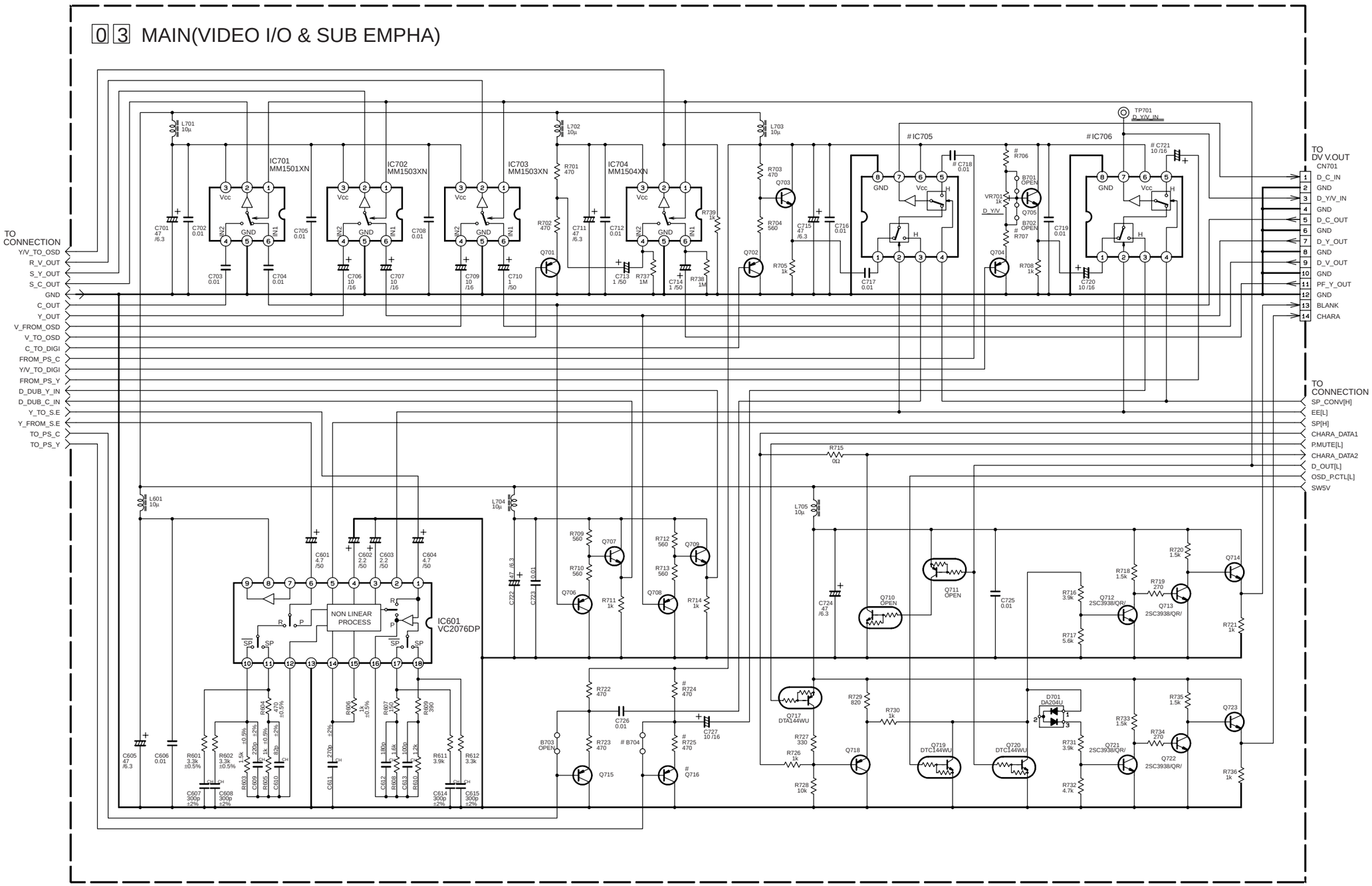
DIFFERENCE TABLE

○: Used
×: Not used

		EU, EU/EA, EK	MS	US	KOREA	JAPAN
TUNER UNIT		ALPS QAU0208	LG QAU0210	ALPS QAU0207	MATSUSHITA QAU0238	MATSUSHITA QAU0224
RF CONVERTER						
BB (RF 5V)	L6002,C6014	○	○	×	×	×
FRONT END						
RF AGC	R6080	○	○	×	×	×
AS	C6022	×	×	×	×	×
SCL	C6020	×	×	×	×	×
SDA	C6021	×	×	×	×	×
MB (SW5V)	L6001	10µ	10µ	SHORT	SHORT	SHORT
	C6007	×	×	×	×	×
	C6008	×	×	×	×	×
TU (30V)	L6005	10µ	10µ	SHORT	SHORT	SHORT
	C6005	×	×	×	×	×
	C6006	×	×	×	×	×
IF						
SW1	R6060	○	○	×	×	×
	C6027	×	×	×	×	×
SW2	R6061	○	○	○	○	×
	C6028	×	×	×	×	×
AUDIO OUT	C6037	○	○	×	×	×
	B6034	×	×	○	×	○
	R6032	3.3k	18k	12k	×	0Ω
	R6033	1.5k	18k	×	×	×
	C6032	○	×	×	×	×
AFT	B6001	○	○	○	●	×
VIDEO OUT	Q6030	○	○	○	○	●
	R6030	1k	1k	3.3k	3.3k	3.3k
	B6030	×	×	×	×	×
AUDIO MUTE	Q6032	○	○	×	×	×
VIDEO MUTE	Q6031	○	○	×	×	×
	R6034	×	×	×	×	×
	C6033	0Ω	0Ω	×	×	×
	B6032	○	○	×	×	×
	B6033	×	×	×	×	×
DEMOD REG	R6551,R6552, D6551,Q6551	×	×	○	×	○
	C6551,C6552, C6554	×	×	×	×	×
	L6501	○	○	×	○	×
	C6553	○	○	×	○	×
	C6555	×	×	×	×	×
DEMOD OUT	R6508,R6510	0Ω	0Ω	0Ω	0Ω	0Ω
	R6509,R6511	×	×	×	×	×
	C6519,C6520	×	×	×	×	×
	Q6501,Q6502	×	×	×	×	×
	B6510,B6511	×	×	×	×	×
DEMOD OPTION	R6553	○	○	0Ω	0Ω	×
	B6552	×	×	×	×	○
	R6554	○	○	0Ω	0Ω	×
	B6554	×	×	×	×	○
DEMOD UNIT	CN6701	LPA10094 -04*	LPA10094 -05*	PB11076A -*	LPA10094 -06*	PB11087A -*
SYNC DET	R6040-R6046, C6040-C6044, Q6040-Q6042, D6040,T6040	×	×	○	○	×

4.6 MAIN (VIDEO I/O&SUB EMPHA) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE

SYMBOL / MODEL	IC705	IC706	Q716, C718, C721 R724, R725	B704	R706	R707
PAL	MM1111XF	MM1115XF	NO	YES	680	330
MS	MM1113XF	MM1118XF	YES	NO	180	680
NTSC	MM1111XF	MM1115XF	NO	YES	680	330

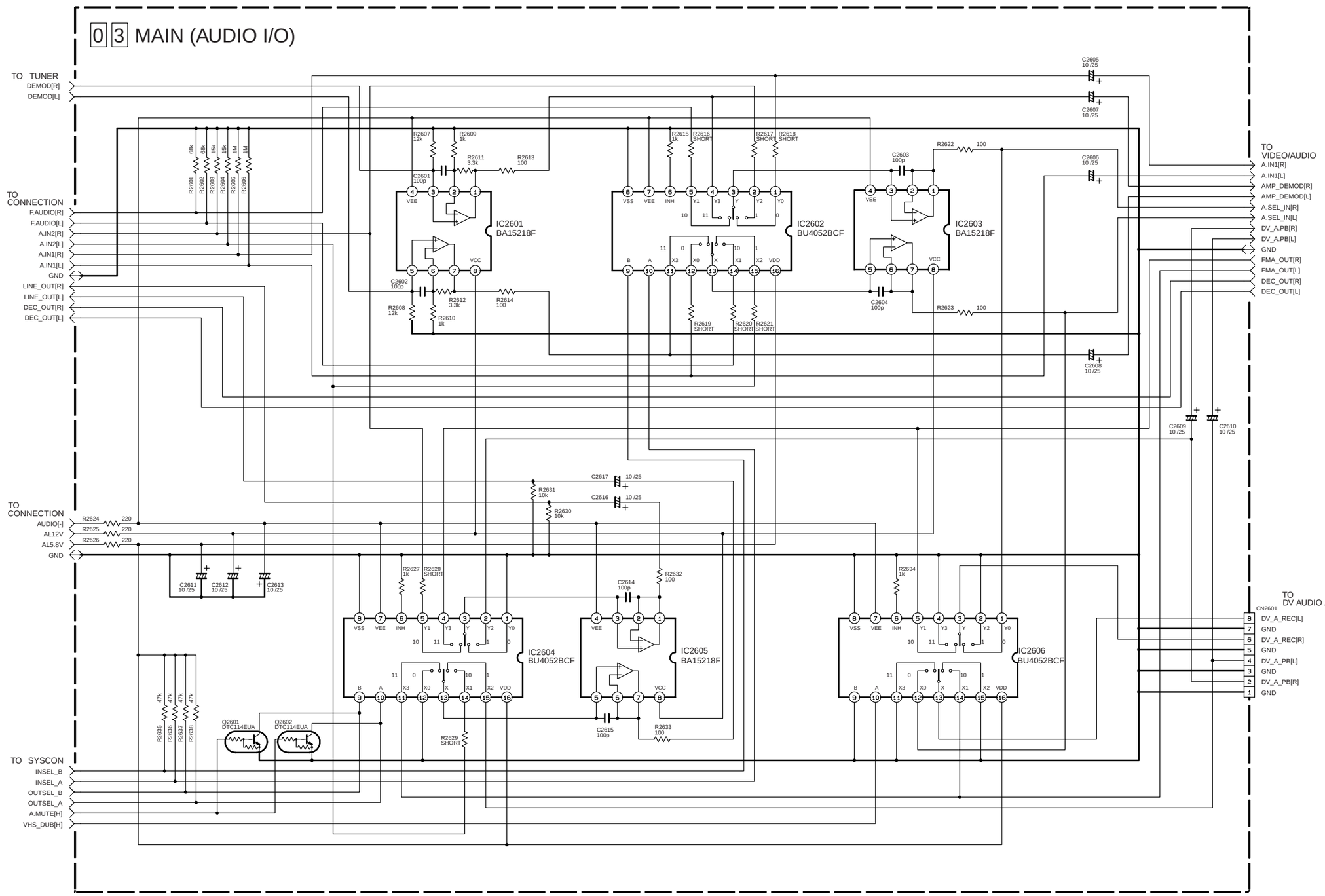
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL NPN TYPE TRANSISTORS ARE 2SC4081/QRS/ or 2SD1819A/QRS/ or 2PC4081/R/.
ALL PNP TYPE TRANSISTORS ARE 2SA1576A/QR/ or 2SB1218A/QR/ or 2PA1576/R/.
ALL NPN TYPE DIGITAL TRANSISTORS ARE DTC144WUA or UN521E or PDTC144WU or RN1309.
ALL PNP TYPE DIGITAL TRANSISTORS ARE DTA144WUA or UN511E or PDTA144WU or RN2309.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MY MYLER
N NON POLAR

p20250001a_rev0

4.7 MAIN (AUDIO I/O) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



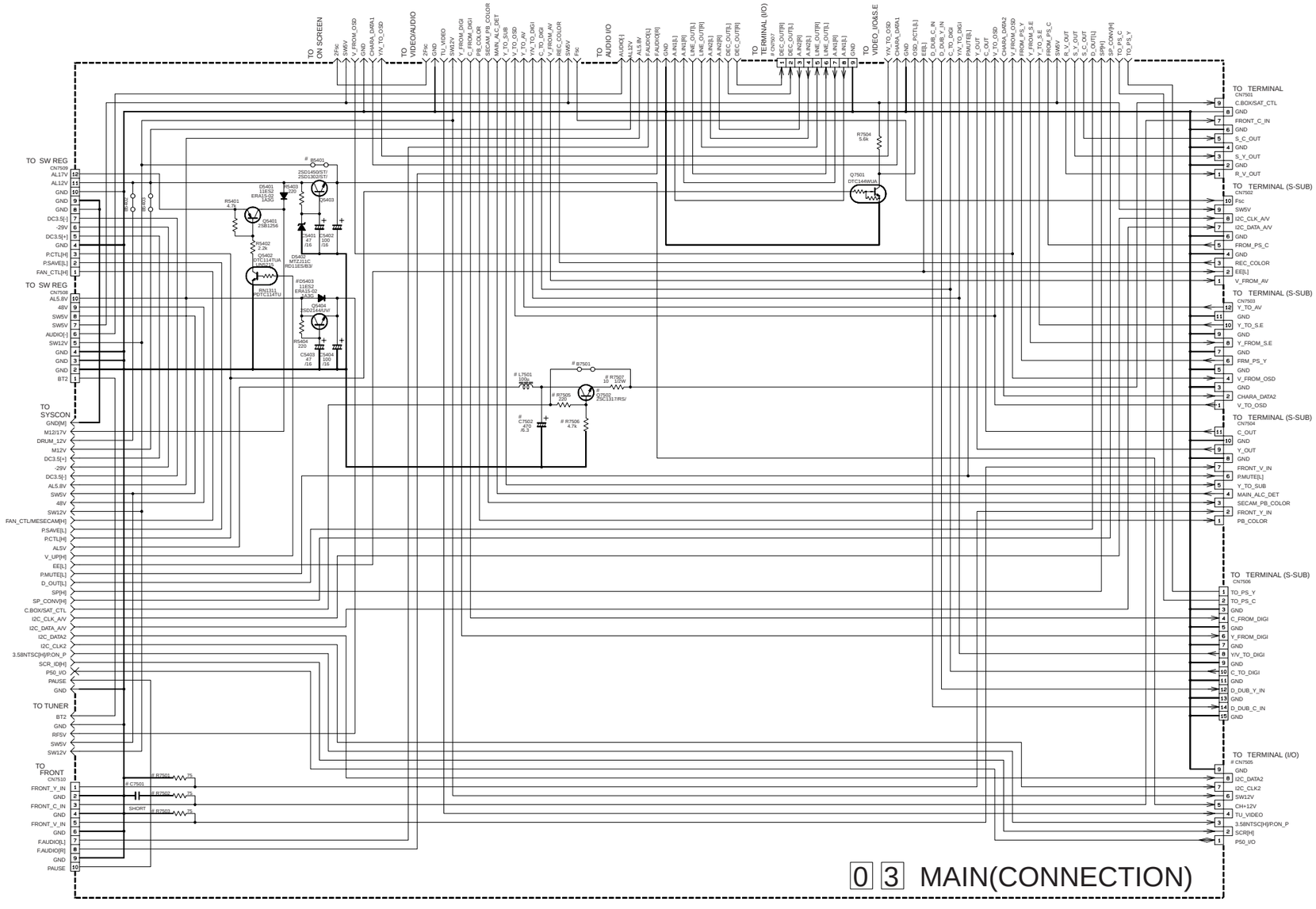
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20251001a_rev0

4.8 MAIN (CONNECTION) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE

○: Used
×: Not used

	EU, EU/EA	EK	MS	U	DOM	KR
B5401	×	×	×	×	×	×
D5403	×	×	×	×	×	×
B7501	×	×	×	×	○	×
R7505	○	○	○	○	×	×
R7506	○	○	○	○	×	×
R7507	○	○	○	○	×	×
L7501	○	○	○	○	×	×
C7502	○	○	○	○	×	×
Q7502	○	○	○	○	×	×
CN7505	○	○	○	×	×	×
CN7507	(1-9) 9	(1-9) 9	(1-9) 9	(1-5) 5	(1-5) 5	(1-5) 5
R7501	×	×	×	×	×	×
R7502	×	×	×	×	×	×
R7503	×	×	×	×	×	×
C7501	×	×	×	×	×	×

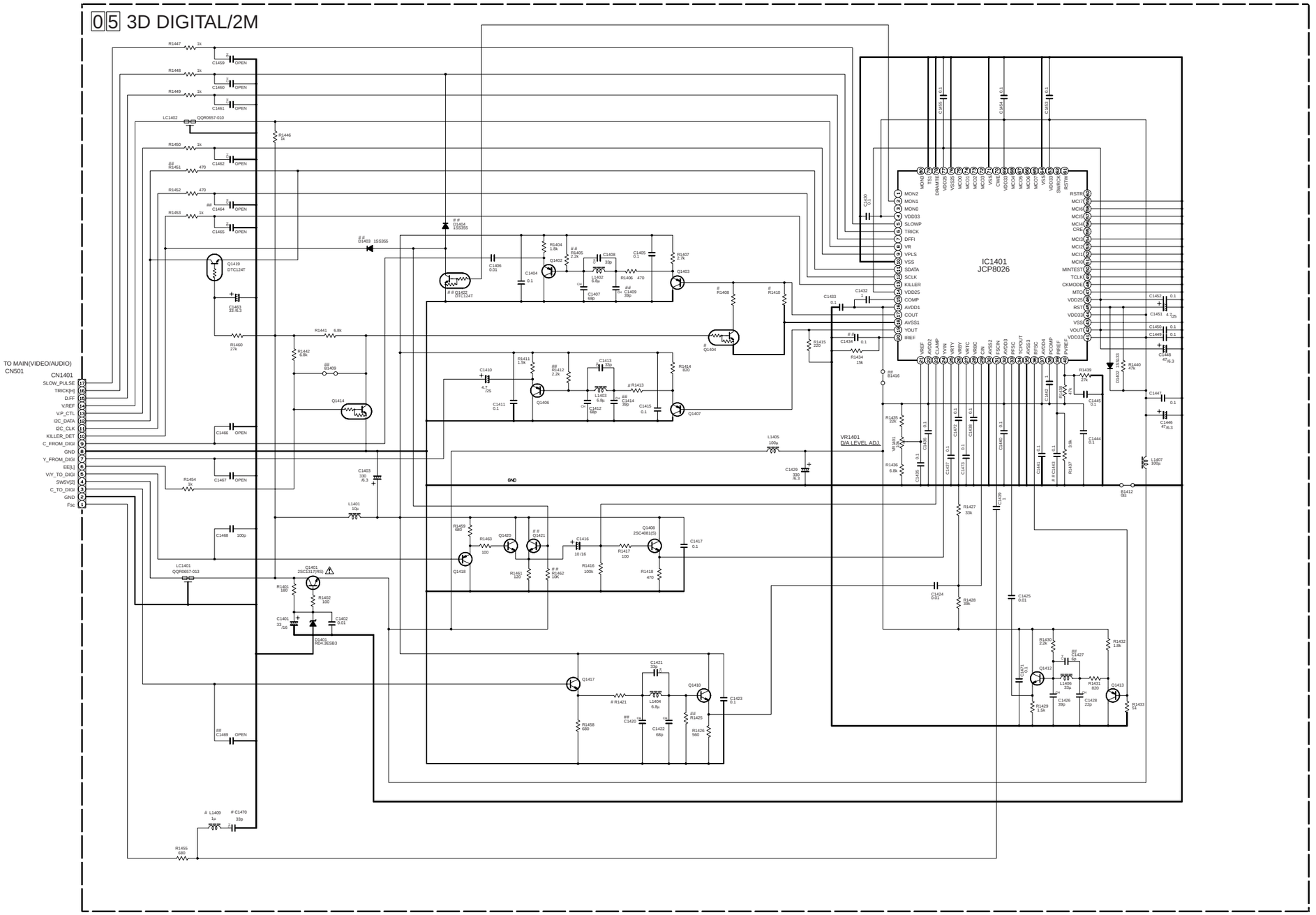
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p10375001a_rev0

4.9 3D DIGITAL/2M SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

MARK ELEMENTS ARE NOT MOUNTED.
ALL SINGLE DIODE:1SS133 OR 1N4148.
ALL PNP TRANSISTOR:2SA1576A(QR) OR 2SB1218A(QR) OR 2PA1576(R)
ALL NPN TRANSISTOR:2SC4081(QRS) OR 2SD1819A(QRS) OR 2PC4081(R)
ALL NPN DIGITAL TRANSISTOR:DTC144WUA OR UN521E OR RN1309

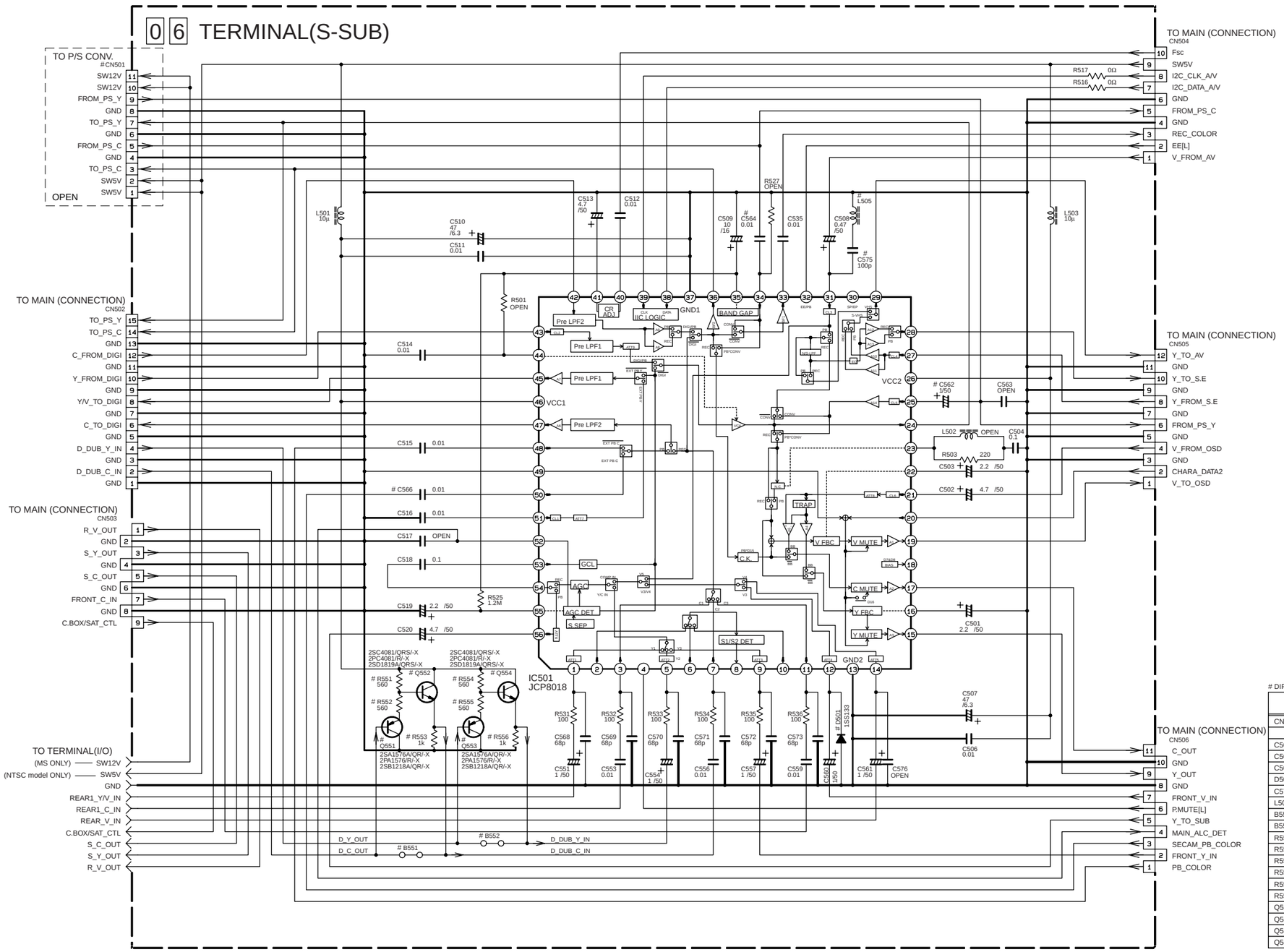
DIFFERENCE TABLE — ○: Used, ×: Not used

	Q1404	R1408	R1410	R1413	R1421	C1470	L1409	
PAL/MS	○	1.2k	390	330	390	33p	1u	
NTSC	×	OPEN	240	470	330	OPEN	OPEN	

p10354001a_rev0

4.10 TERMINAL (S-SUB) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE

○: Used
×: Not used

	EU,EU/EA	EK	MS	U	DOM	KR
CN501	X	X	○	X	X	X
C562	X	X	○	X	X	X
C564	X	X	○	X	X	X
C566	X	X	○	X	X	X
D501	X	X	X	X	X	X
C575	○	○	○	X	X	X
L505	SHORT	SHORT	SHORT	OPEN	OPEN	OPEN
B551	○	○	○	○	○	○
B552	○	○	○	○	○	○
R551	X	X	X	X	X	X
R552	X	X	X	X	X	X
R553	X	X	X	X	X	X
R554	X	X	X	X	X	X
R555	X	X	X	X	X	X
R556	X	X	X	X	X	X
Q551	X	X	X	X	X	X
Q552	X	X	X	X	X	X
Q553	X	X	X	X	X	X
Q554	X	X	X	X	X	X

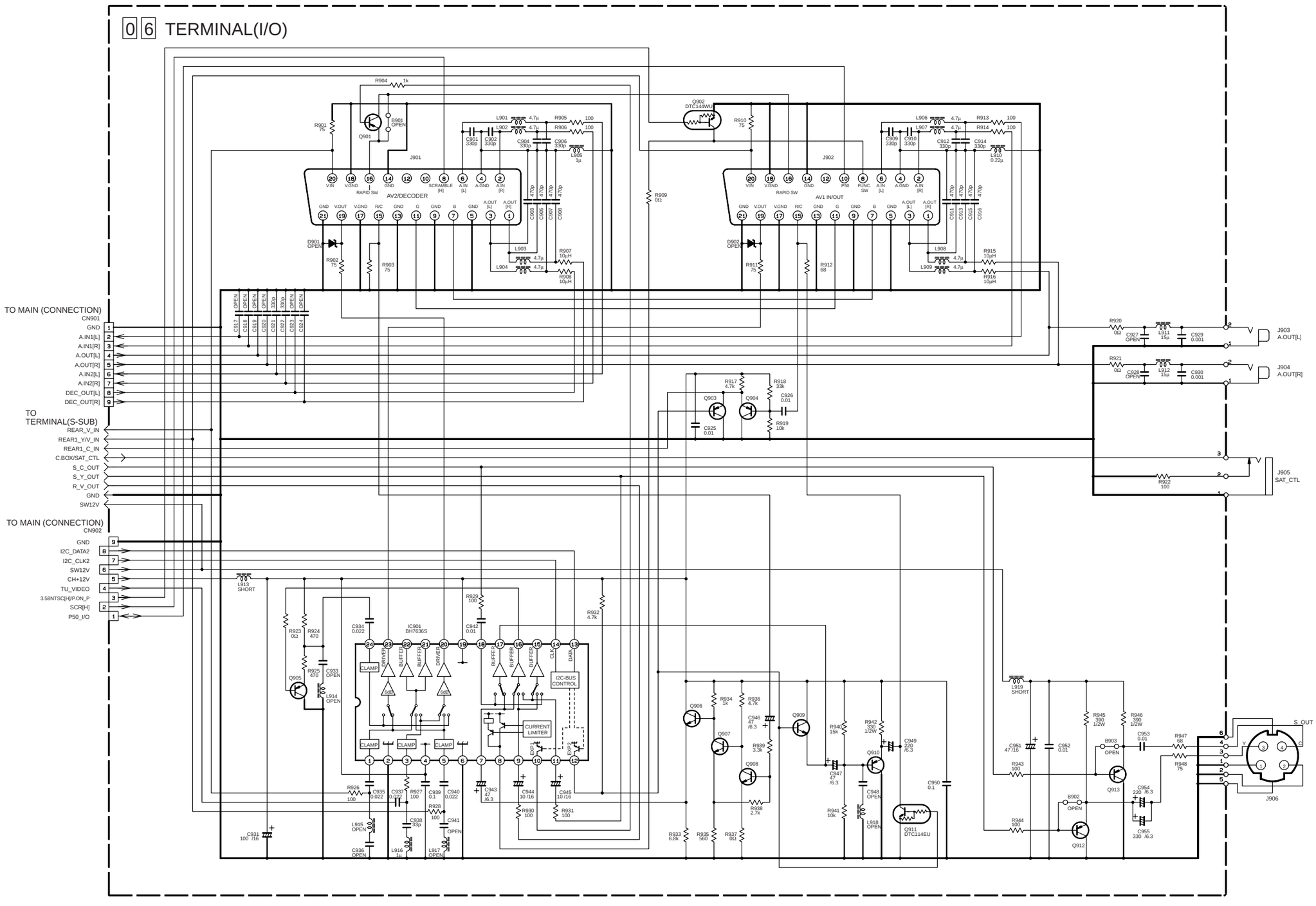
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20225001a_rev0

4.11 TERMINAL (I/O) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

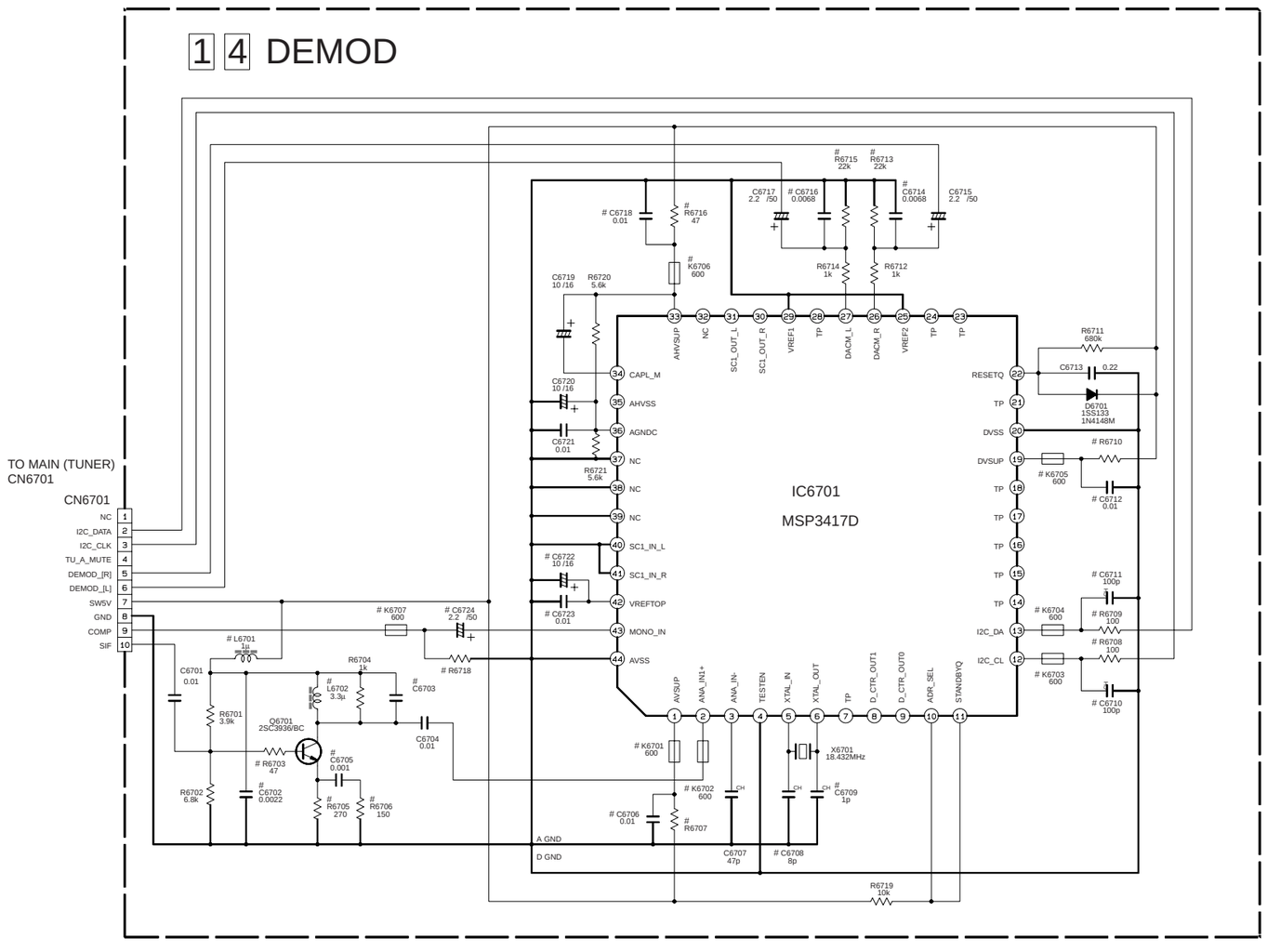
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

ALL NPN TYPE TRANSISTORS ARE 2SC4081/QRS/ or 2SD1819A/QRS/ or 2PC4081/R/.
ALL PNP TYPE TRANSISTORS ARE 2SA1576A/QR/ or 2SB1218A/QR/ or 2PA1576/R/.

p20226001a_rev0

4.12 DEMODULATOR SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE ○ : Used × : Not used

		V13			V14				
		FRANCE MS	EU/EK	ARC	EU, EU/EA, EK	FRANCE MS	KOREA	ARC 4SYSTEM	ARC 3SYSTEM
DEMOD PWB ASSY		LPA10094 -01*	LPA10094 -02*	LPA10094 -03*	LPA10094 -04*	LPA10094 -05*	LPA10094 -06*	LPA10094 -07*	LPA10094 -08*
PRE AMP	R6703	47	47	47	47	0	47	0	0
	R6705	270	270	100	270	270	270	270	270
	R6706	150	150	×	100	×	100	×	×
	C6702	0.0022	0.0022	0.0022	×	×	×	×	×
	C6703	×	×	220p	×	×	×	220p	180p
	C6705	0.001	0.001	×	0.001	×	0.001	×	×
	L6701	1µ	1µ	1µ	SHORT	SHORT	SHORT	SHORT	SHORT
	L6702	3.3µ	3.3µ	3.3µ	3.3µ	×	3.3µ	3.3µ	3.3µ
MONO IN	K6707	FE 600	×	×	×	FE 600	×	×	×
	C6724	0.22/50	×	×	×	0.22/50	×	×	×
	R6718	×	×	×	×	×	×	×	×
I2C-BUS	R6708,R6709	100	100	100	FE 600	FE 600	FE 600	FE 600	FE 600
	K6703,K6704	FE 600	FE 600	FE 600	1K	1K	1K	1K	1K
	C6710,C6711	×	×	×	×	×	×	×	×
ANALOG Vcc	R6707	22	47	47	FE 600	FE 600	FE 600	FE 600	FE 600
	K6701	FE 600	FE 600	FE 600	33	33	33	33	33
	C6706	×	×	×	×	×	×	×	×
DIGITAL Vcc	R6710	10	12	12	FE 600	FE 600	FE 600	FE 600	FE 600
	K6705	FE 600	FE 600	FE 600	10	10	10	10	10
	C6712	×	×	×	×	×	×	×	×
DAC Vcc	R6716	47	47	47	FE 600	FE 600	FE 600	FE 600	FE 600
	K6706	FE 600	FE 600	FE 600	47	47	47	47	47
	C6718	×	×	×	×	×	×	×	×
X'TAL	C6708	8p	8p	8p	7p	7p	7p	7p	7p
	C6709	1p	1p	1p	3p	3p	3p	3p	3p
DAC OUT	R6713,R6715	×	×	×	×	×	×	×	×
	C6714,C6716	0.0068	0.0068	0.0068	0.0022	0.0068	0.0022	0.0022	0.0022
VREF	C6722	×	×	×	×	×	×	×	×
	C6723	0.01	0.01	0.01	0.01	0.01	0.001	0.01	0.01

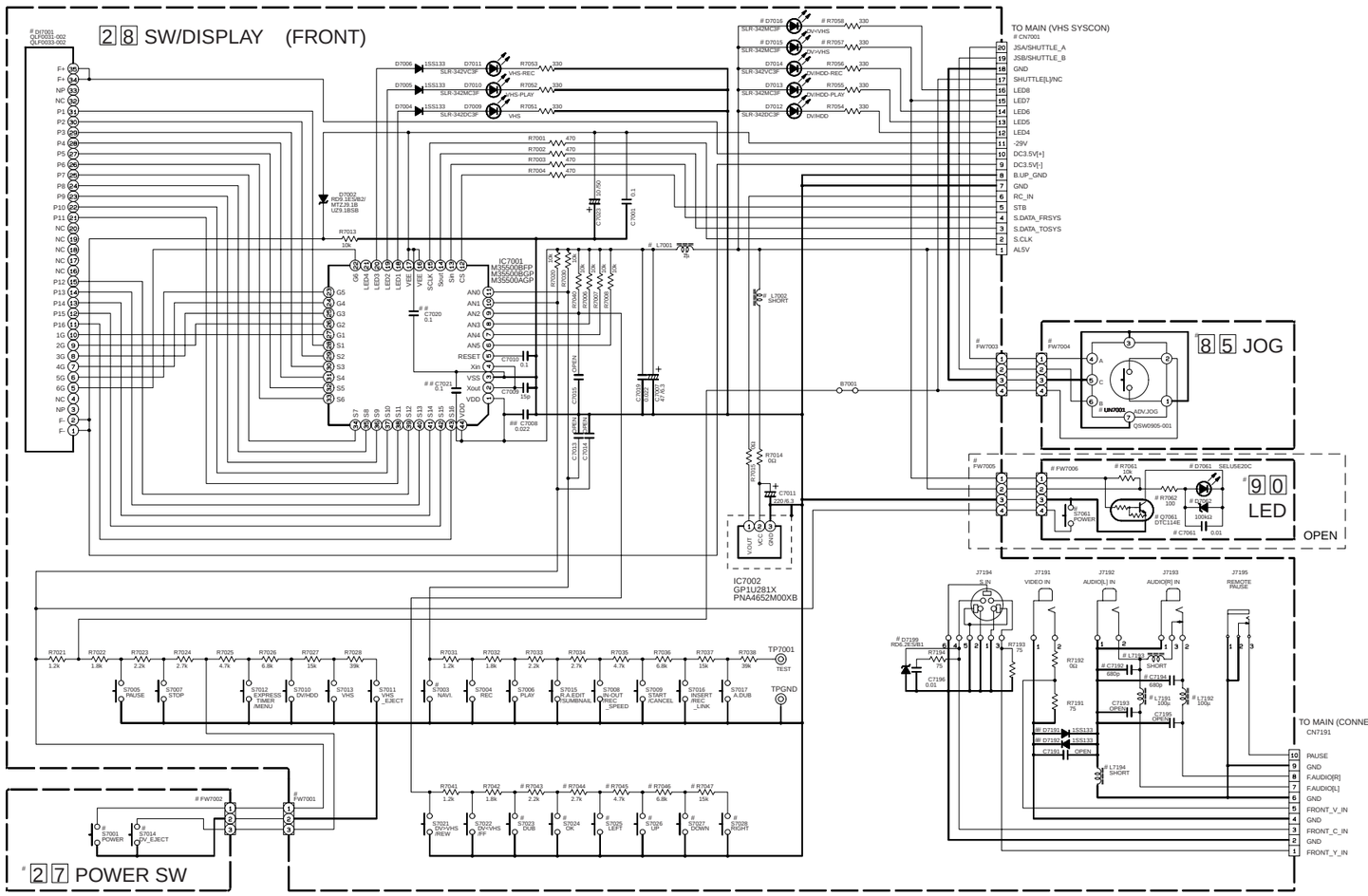
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20162001a_rev3

4.13 POWER SW, SW/DISPLAY AND JOG SCHEMATIC DIAGRAMS

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE

O: Used
X: Not used

		2 7 S7001 _S7014 FW7001-FW7002 / 8 5 UN7001 FW7003-FW7004	9 0 S7061 R7061,R7062 Q7061,C7061 D7061,D7062 FW7005-FW7006	S7003 S7024 S7025 S7026 S7027 S7028	R7043 R7044 R7045 R7046 R7047	S7023 D7015 D7016 R7057 R7058	CN7001	D7191 D7192 L7193 L7194 C7192 C7194	D7199	L7191	L7092	L7001 L7002
DV+VHS	EU, EU/EA	O	X	X	X	O	1-20	O	X	100ohm	100ohm	O
	EK	O	X	X	X	O	1-20	O	X	100ohm	100ohm	O
	MS	O	X	X	X	O	1-20	O	X	100ohm	100ohm	O
	U	O	X	X	X	O	1-20	O	X	100ohm	100ohm	O
	DOM	O	X	X	X	O	1-20	O	X	100ohm	100ohm	O
	KR	O	X	X	X	O	1-20	O	X	100ohm	100ohm	O
HDD+VHS	EU	X	O	O	O	X	1-15	O	X	100ohm	100ohm	O
	EK	X	O	O	O	X	1-15	O	X	100ohm	100ohm	O
	MS	X	O	O	O	X	1-15	O	X	100ohm	100ohm	O
	U	X	O	O	O	X	1-15	O	X	100ohm	100ohm	O
	DOM	X	O	O	O	X	1-15	O	X	100ohm	100ohm	O
	KR	X	O	O	O	X	1-15	O	X	100ohm	100ohm	O

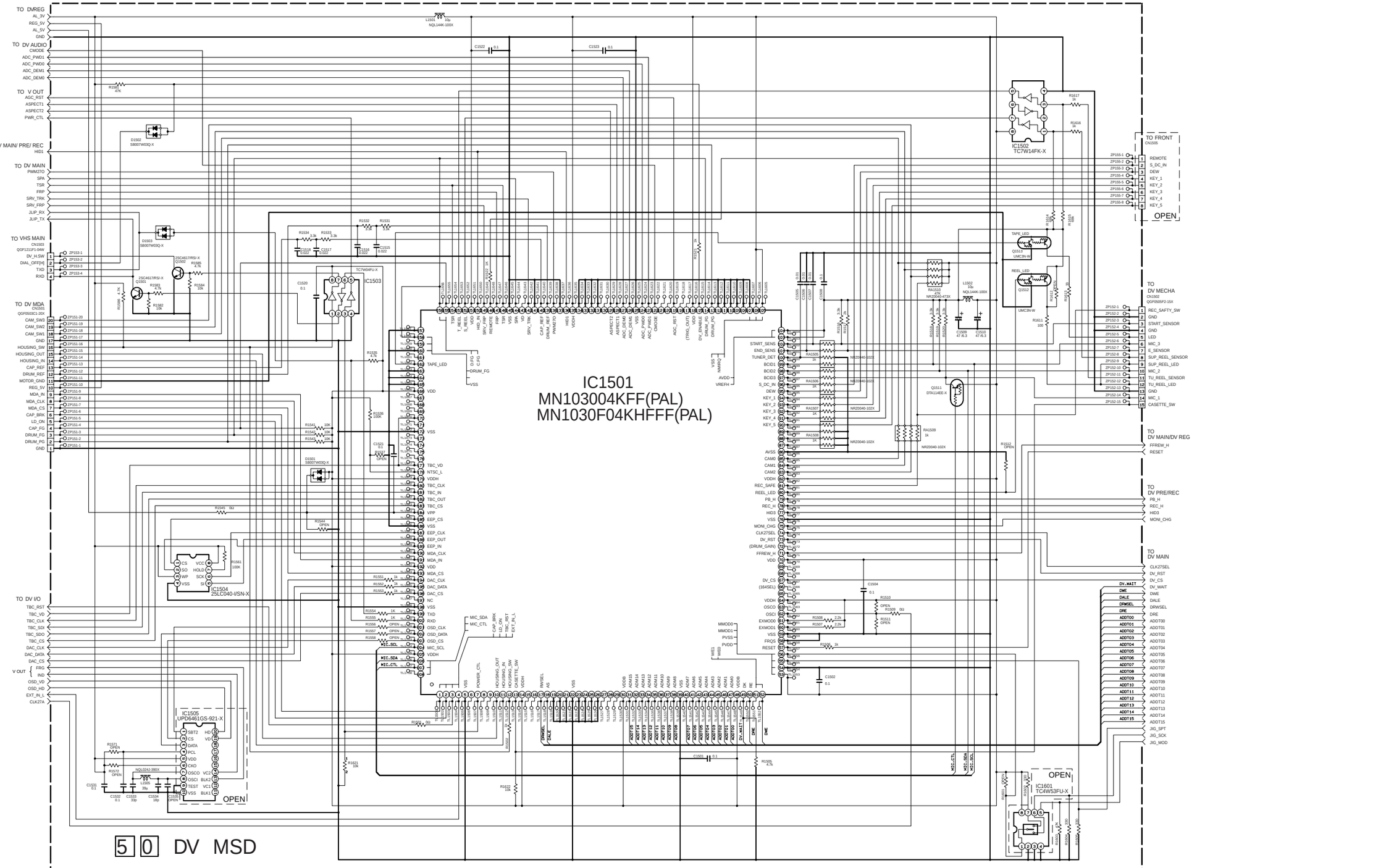
##:NOT USED

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p10370001a_rev0

4.14 DV MSD SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

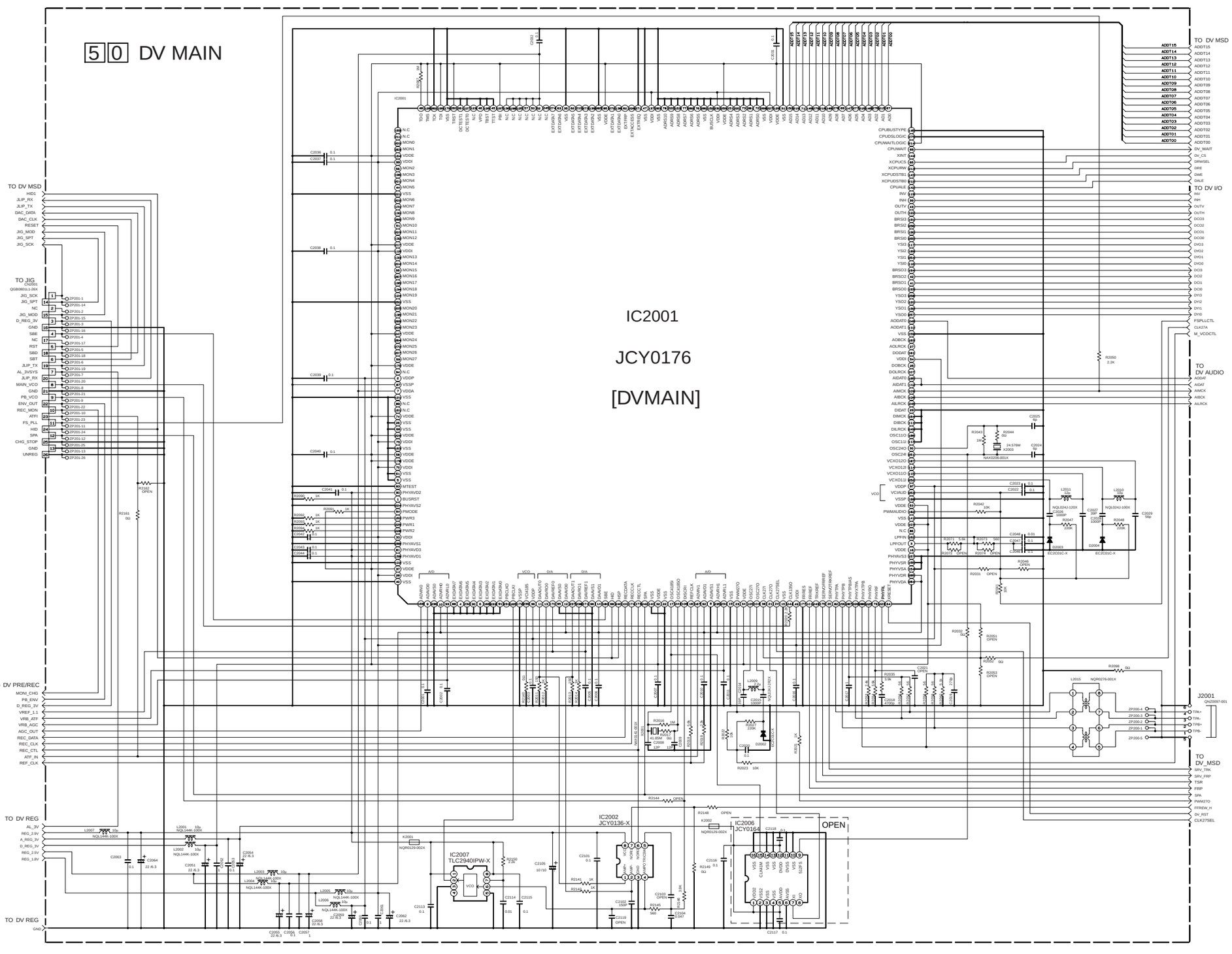
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

LAST NO	VACANT NO
R	
C	
D	
Q	
L	

p10395001a_rev0

4.15 DV MAIN SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

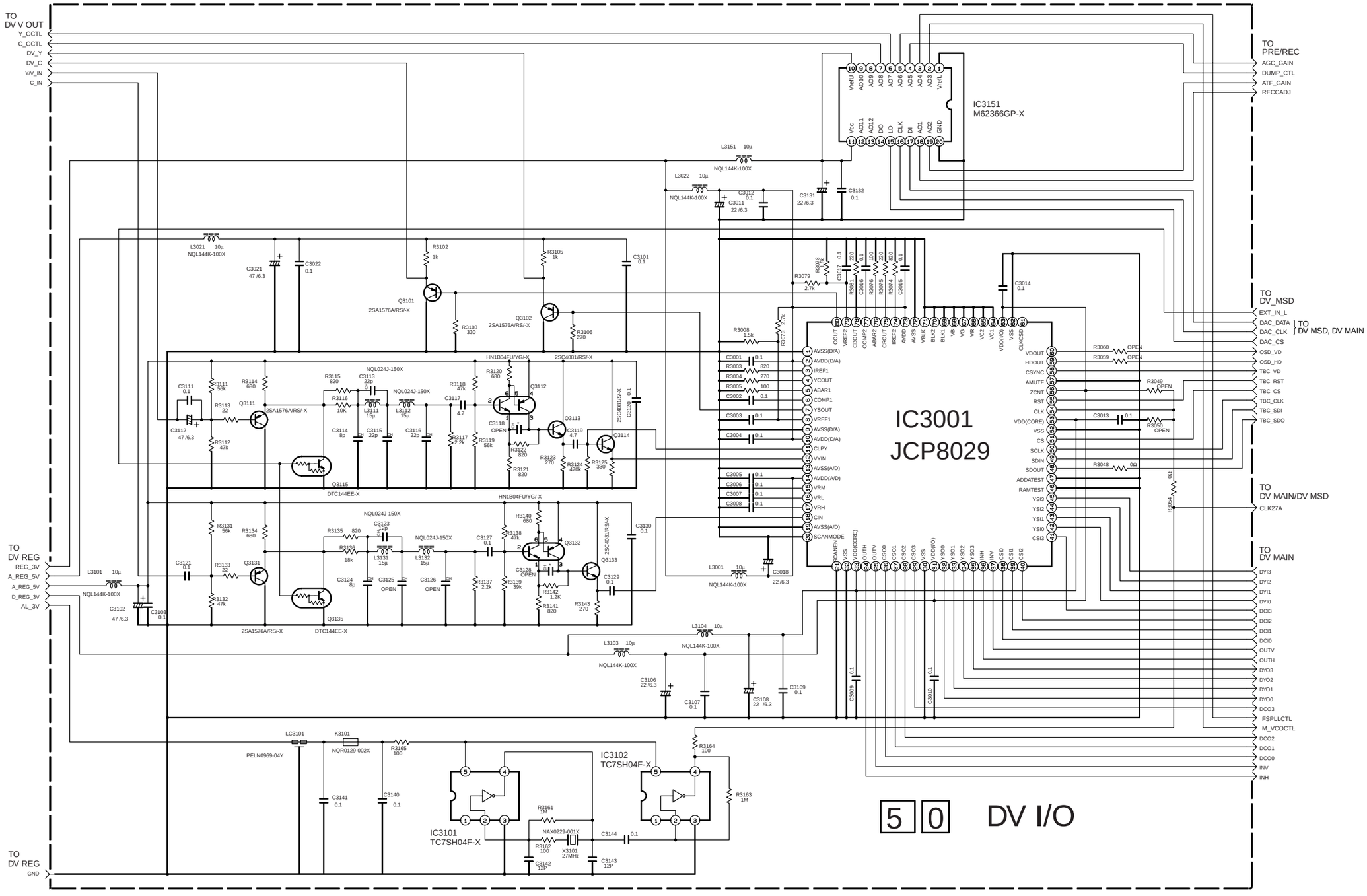
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

LAST NO		VACANT NO
R		
C		
D		
Q		
L		

p10396001a_rev0

4.16 DV I/O SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

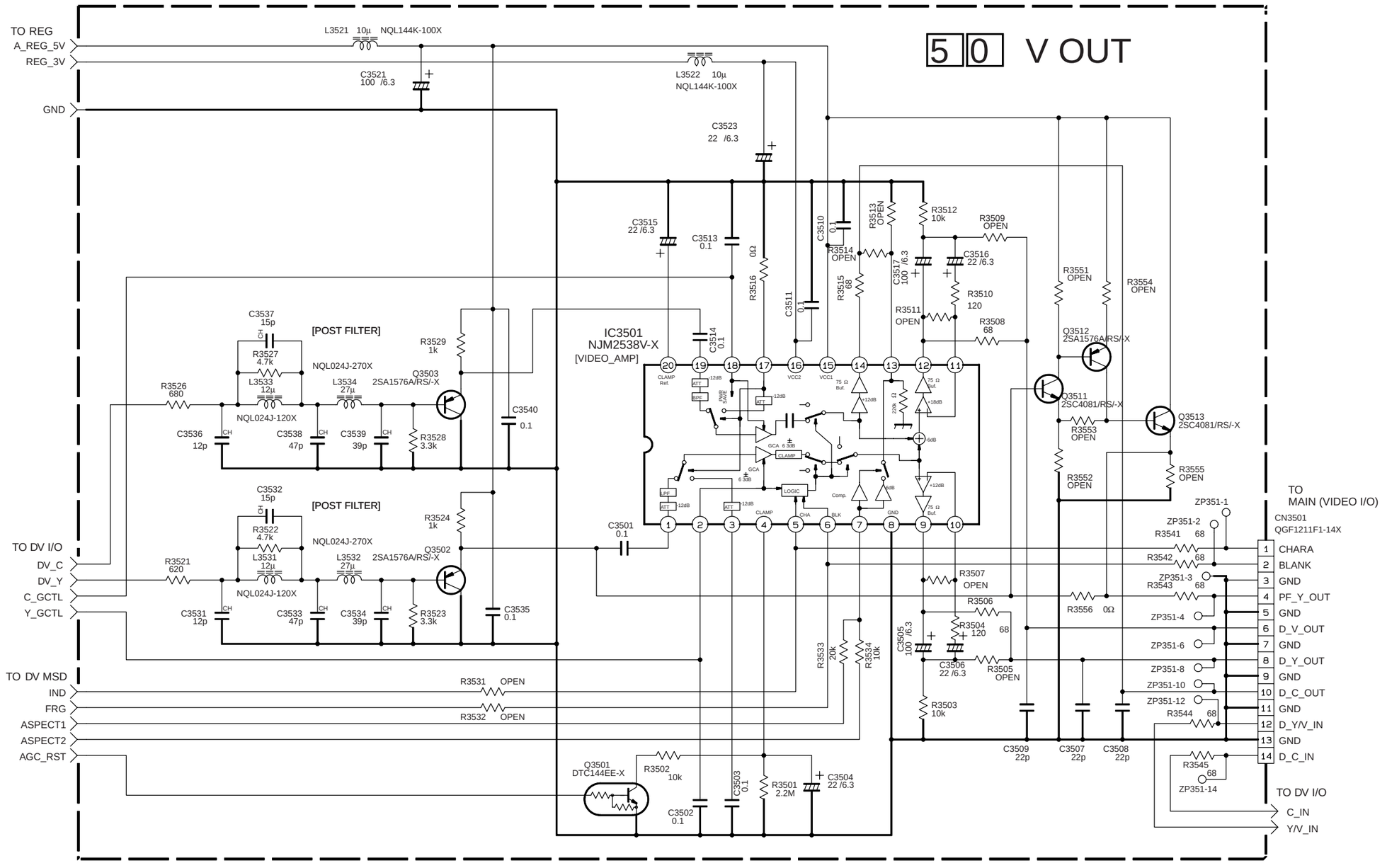
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

LAST NO		VACANT NO
R		
C		
D		
Q		
L		

p20247001a_rev0.1

4.17 DV V OUT SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

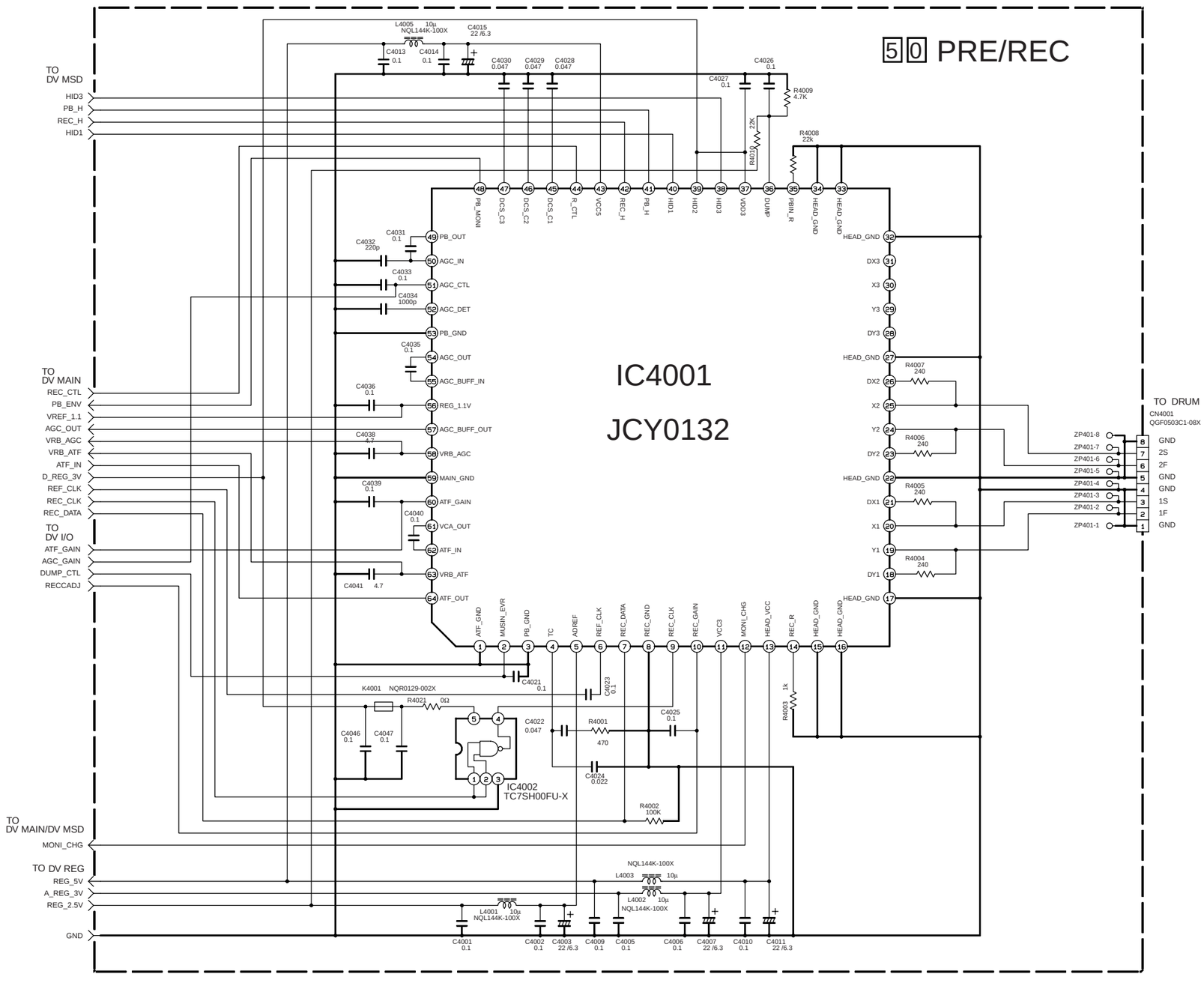
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

LAST NO	VACANT NO
R	
C	
D	
Q	
L	

p20248001a_rev0

4.18 DV PRE/REC SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

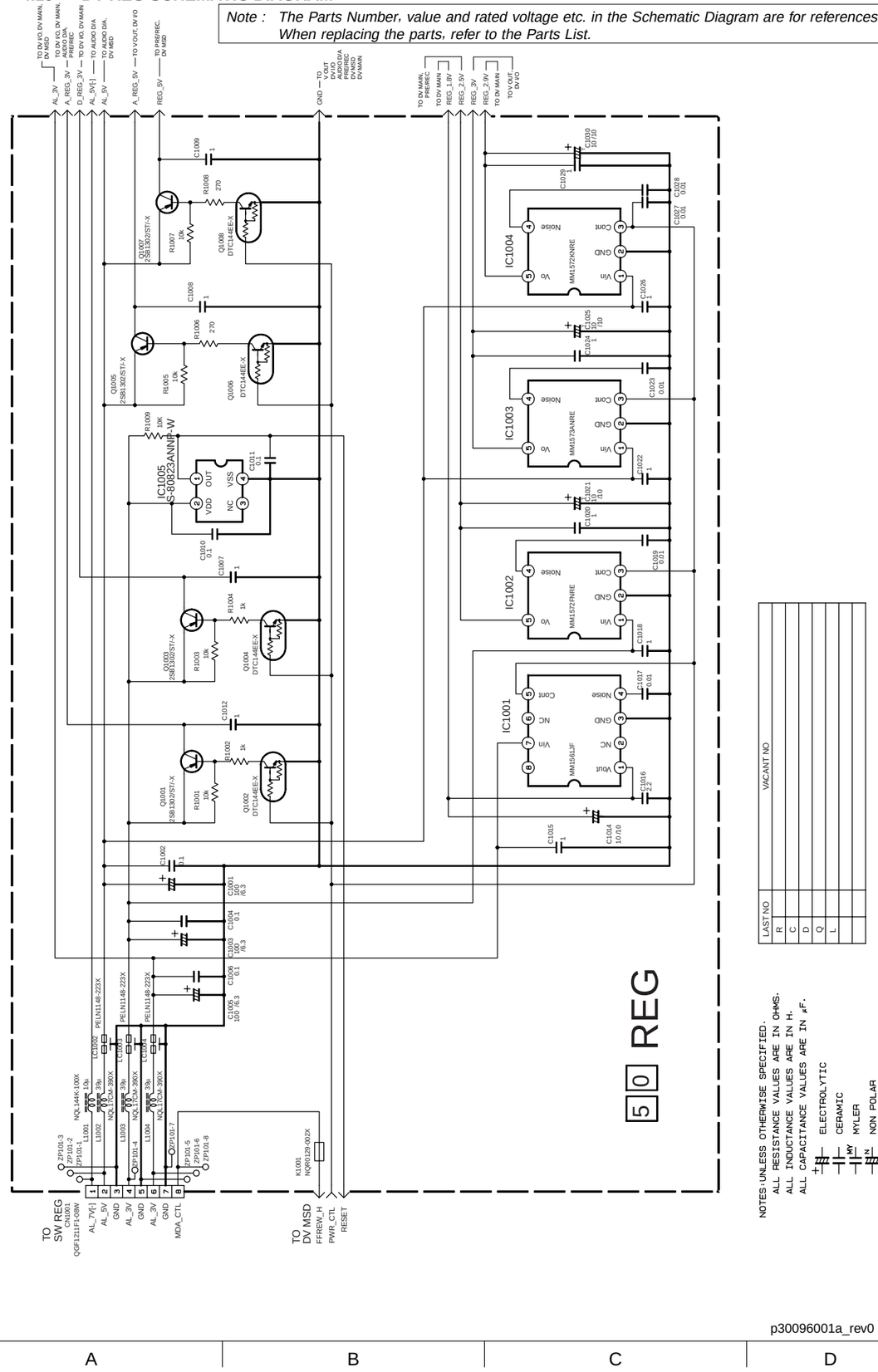
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

LAST NO		VACANT NO
R		
C		
D		
Q		
L		

p20249001a_rev0

4.19 DV REG SCHEMATIC DIAGRAM

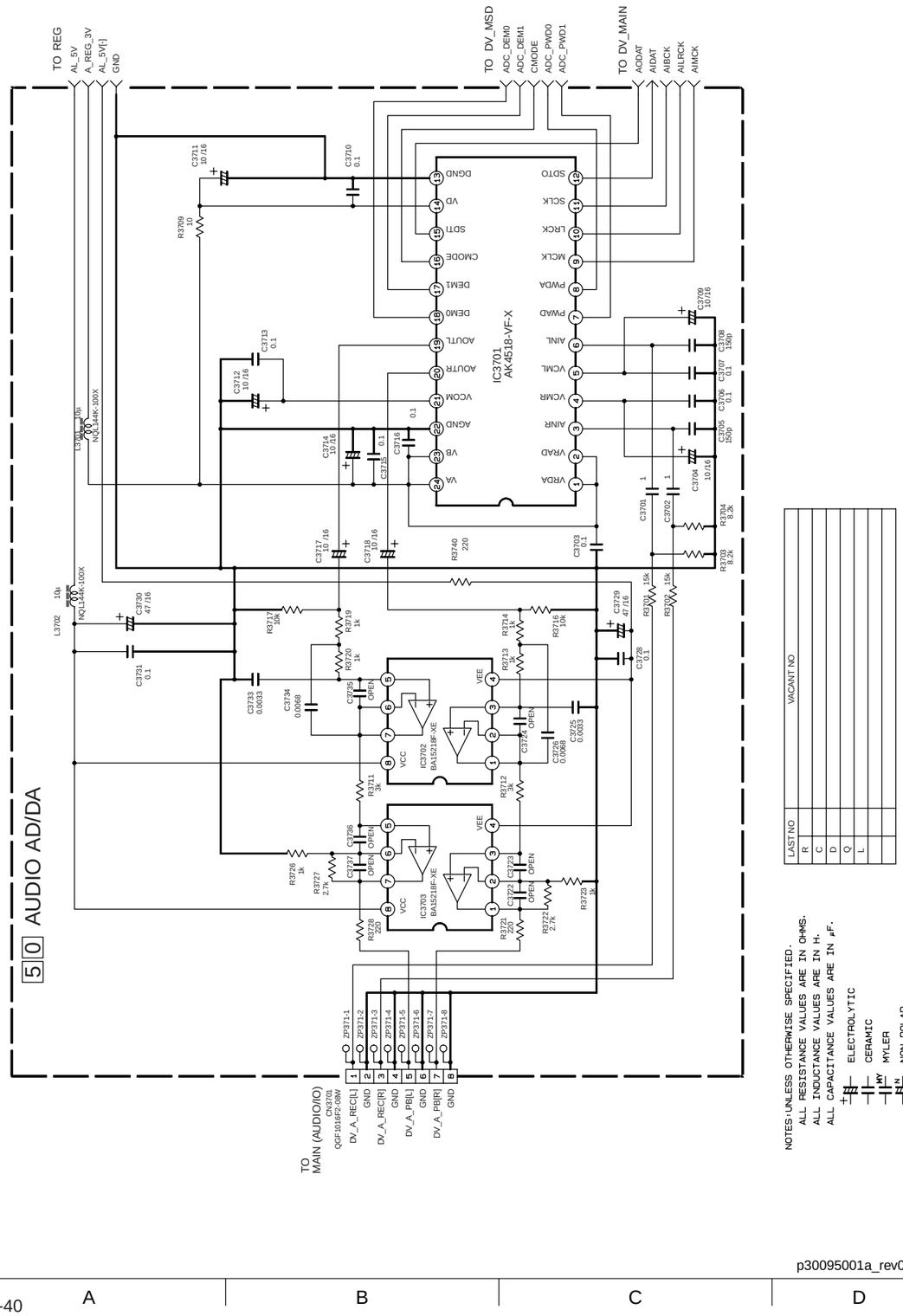
Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



p30096001a_rev0

4.20 DV AUDIO AD/DA SCHEMATIC DIAGRAM

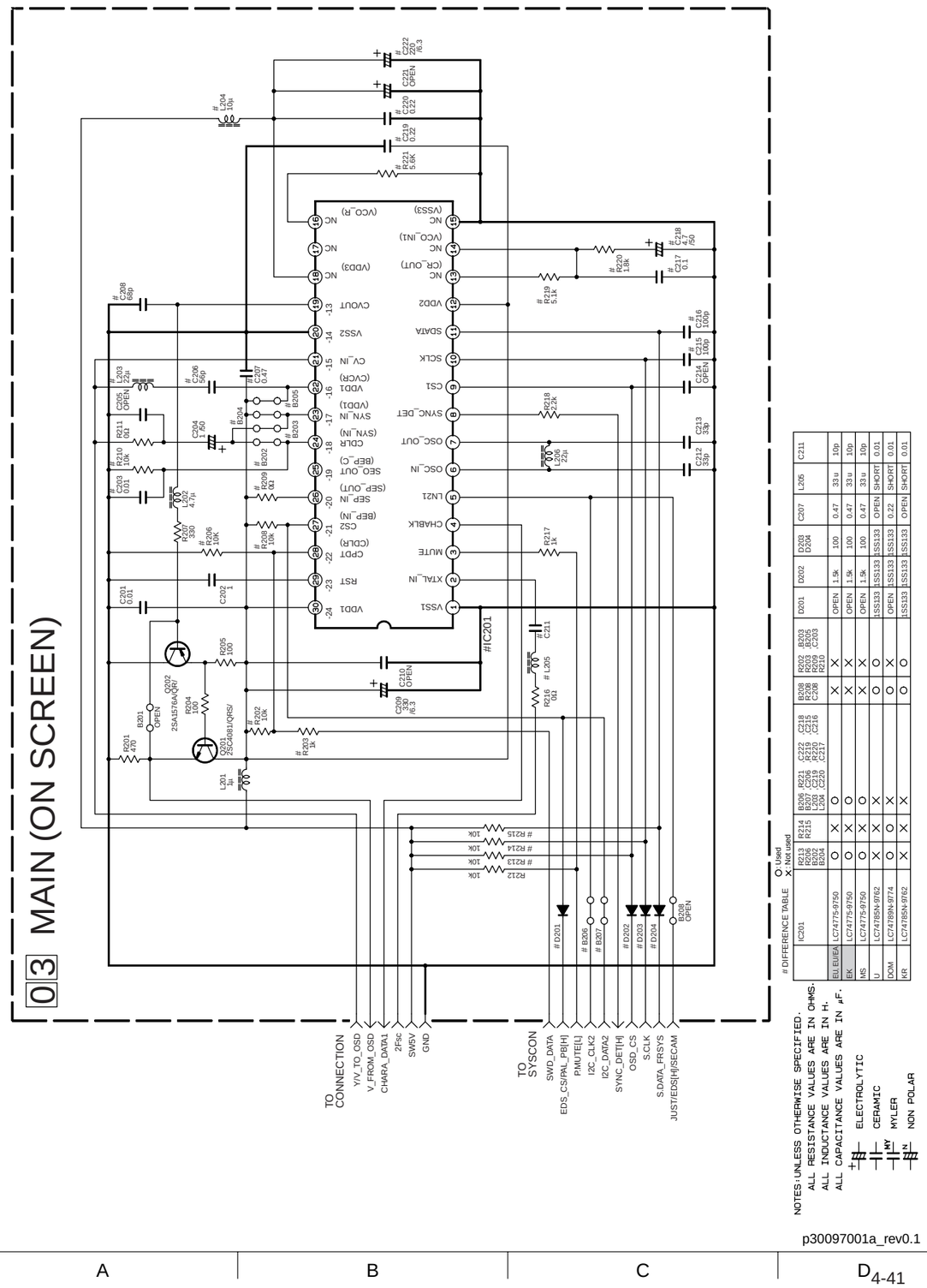
Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



p30095001a_rev0

4.21 MAIN (ON SCREEN) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

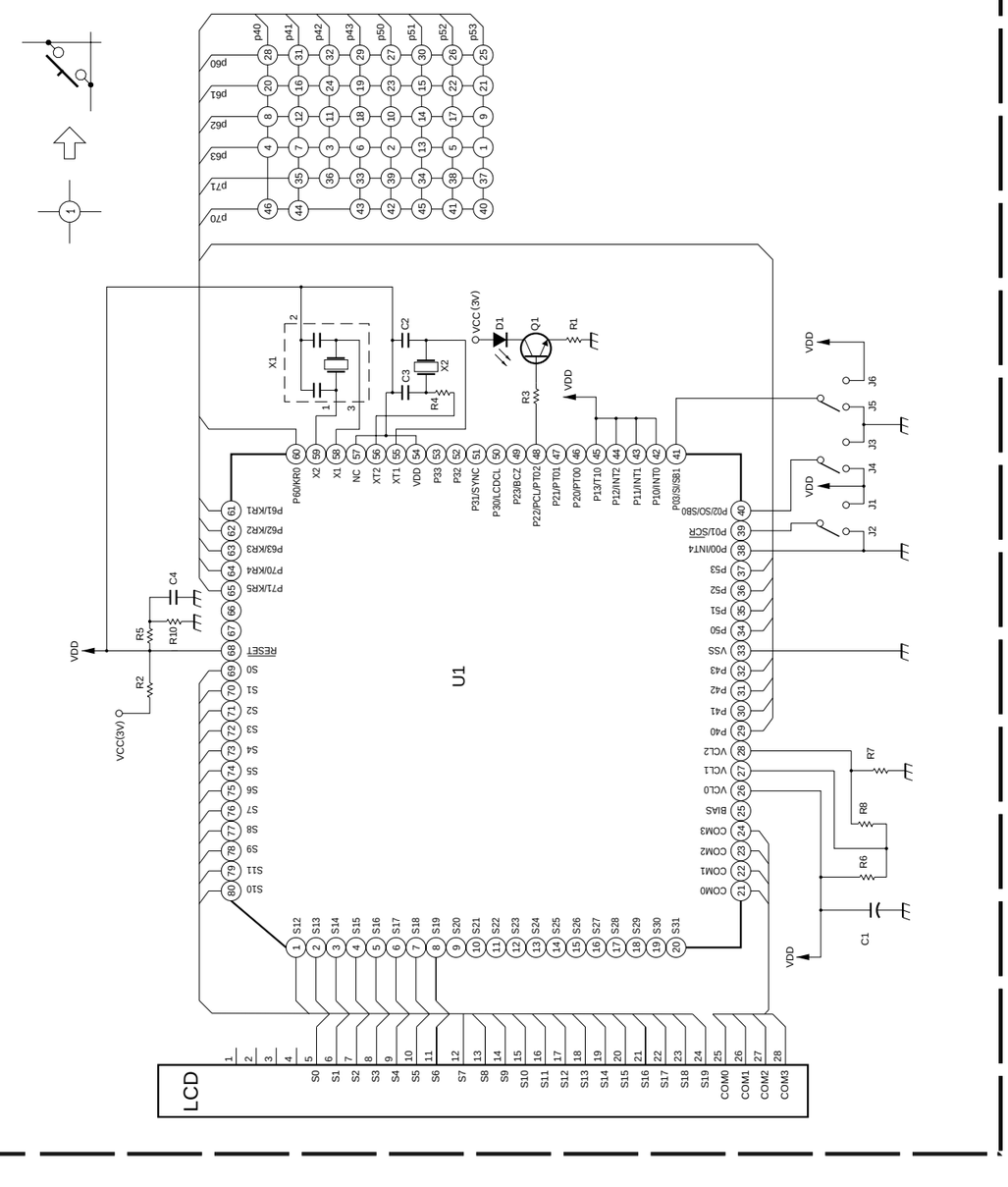


4.22 REMOTE CONTROLLER SCHEMATIC DIAGRAM

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
   Avoid replacing individual parts.
   Replace the entire unit only.

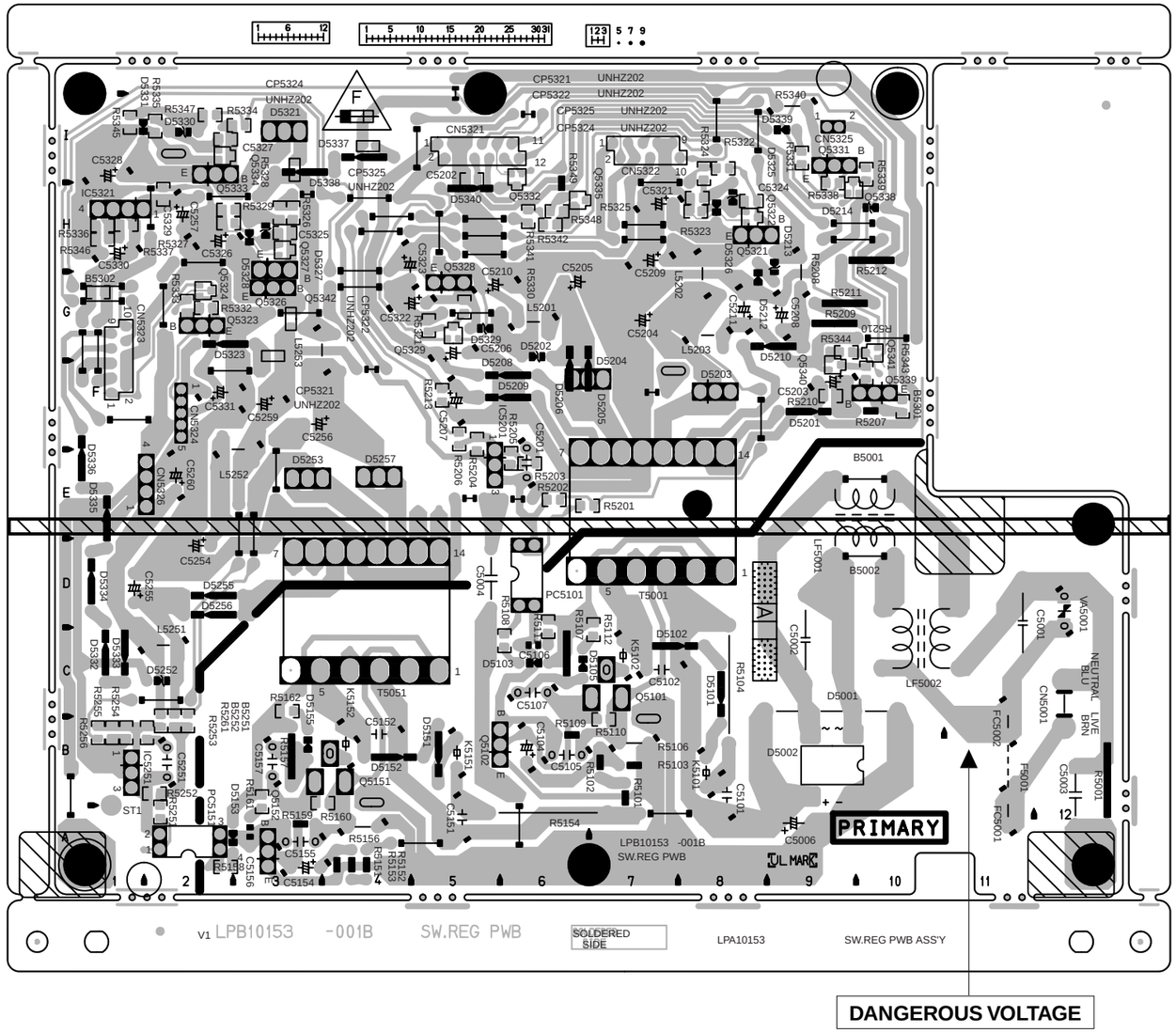
(LP20873-006#)

KEY No.	KEY NAME
1	TV/CABLE/SAT
2	DV
3	VHS
4	⏻/I (POWER)
5	LCD PROG
6	AUDIO/ ◁/ ✕
7	-:-:-
8	TV/VCR
9	1
10	2
11	3
12	RE-VIEW
13	4
14	5
15	6
16	(TRANS)
17	7/VPS/PDC
18	8/DAILY
19	9/WEEKLY
20	⏲ (TIMER)
21	X/0000 (CANCEL)
22	0/AUX
23	▶/▶▶ (SP/LP/EP)
24	MENU
25	PROG
26	⏲ ?(PROG CHECK)
27	30 SEC
28	OK
29	START +
30	STOP +
31	DATE +
32	PR +
33	START −
34	STOP −
35	DATE −
36	PR −
37	▼/▼▼ (REW)
38	▲ (PLAY)
39	▲/▲▲ (FF)
40	● (REC)
41	■ (STOP)
42	▮▮ (PAUSE)
43	▲/TV PROG +
44	▼/▼◿ − /TV◿ −
45	▲/▲◿ + /TV◿ +
46	▼/TV PROG −
DOUBLE KEYS	
40 + 38	REC START
40 + 42	REC PAUSE



4.23 SWITCHING REGULATOR CIRCUIT BOARD

<01> SW.REG
LPB10153-001B



COMPONENT PARTS LOCATION GUIDE <SW.REG> LPB10153-001B

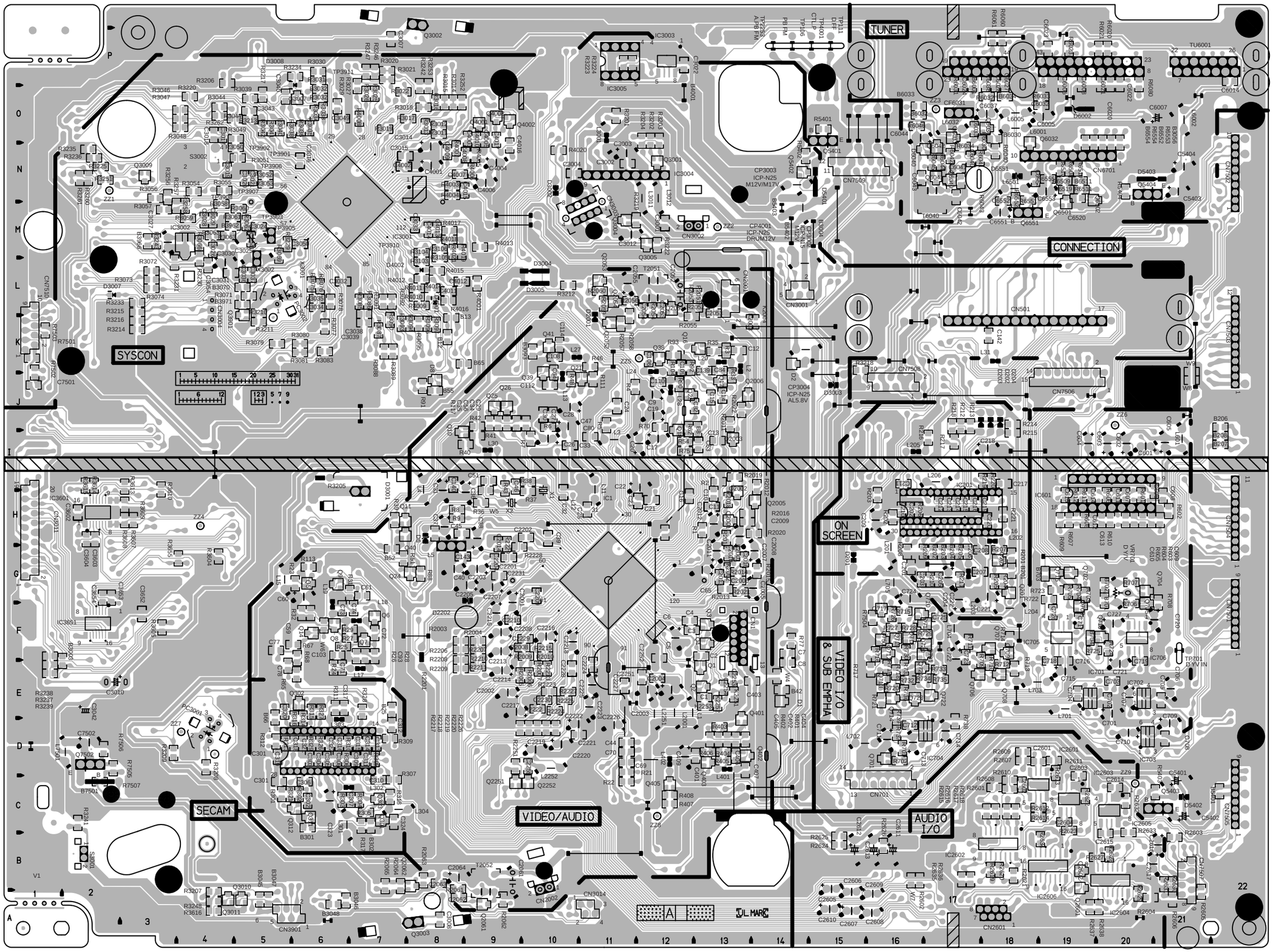
REF.NO.	LOCATION
CAPASISTOR	
C5001	A D 11C
C5002	A D 9D
C5003	A D 12B
C5004	A D 5D
C5006	A D 9A
C5101	A D 8A
C5102	A D 7C
C5104	A D 6B
C5105	A D 6B
C5106	A D 6C
C5107	A D 6C
C5151	A D 5A
C5152	A D 4B
C5154	A D 3A
C5155	A D 3A
C5156	A D 3A
C5157	A D 3B
C5201	A D 6E
C5202	B C 5I
C5203	A D 9F
C5204	A D 7G
C5205	A D 6G
C5206	A D 5G
C5207	A D 5F
C5208	A D 9G
C5209	A D 7H
C5210	A D 5G
C5211	A D 8G
C5251	A D 2B
C5254	A D 2D
C5255	A D 1D
C5256	A D 4F
C5257	A D 2H
C5259	A D 3F
C5260	A D 2E
C5321	A D 7H
C5322	A D 5G
C5323	A D 4H
C5324	B C 8H
C5325	B C 3H
C5326	A D 3H
C5327	B C 2I
C5328	A D 1I
C5329	B C 2H
C5330	A D 1H
C5331	A D 2F
CONNECTOR	
CN5001	A D 12C
CN5321	A D 5I
CN5322	A D 7I
CN5323	A D 1F
CN5324	A D 2F
CN5325	A D 9I
CN5326	A D 2E
CP5321	B C 3G
CP5322	B C 3G
CP5324	B C 3I
CP5325	B C 4I
DIODE	
D5001	A D 8C
D5002	B C 9B
D5101	A D 8C
D5102	A D 7C
D5103	A D 6C
D5105	A D 6C
D5151	A D 5B
D5152	A D 4B
D5153	A D 3A
D5155	A D 3B
D5201	A D 9F
D5202	A D 6G
D5203	A D 8F
D5204	A D 7F
D5205	A D 6F
D5206	A D 6F
D5208	A D 6F
D5209	A D 6F
D5210	A D 9G
D5212	A D 8G
D5213	A D 9H
D5214	A D 10H
D5252	A D 2C
D5253	A D 4E
D5255	A D 3D
D5256	A D 3D
D5257	A D 4E
D5321	A D 3I
D5323	A D 3G
D5325	A D 8H
D5326	A D 8H
D5327	A D 3H
D5328	A D 3H
D5329	A D 6G
D5330	A D 2I
D5331	A D 1I
D5332	A D 1D
D5333	A D 1C
D5334	A D 1D
D5335	A D 1D
D5336	A D 1E
D5337	A D 4I
D5338	A D 4I
D5339	A D 9I
D5340	A D 5H
FUSE	
F5001	A D 11A
IC	
IC5201	A D 5E
IC5251	A D 1B
IC5321	A D 1H

REF.NO.	LOCATION
COIL	
L5201	A D 6G
L5202	A D 8G
L5203	A D 8G
L5251	A D 2C
L5252	A D 2F
L5253	A D 4F
LF5001	A D 10D
LF5002	A D 10C
PC5101	A D 6D
PC5151	A D 2A
TRANSISTOR	
Q5101	A D 7C
Q5102	A D 6B
Q5151	A D 4B
Q5152	A D 3A
Q5321	A D 8H
Q5322	B C 8H
Q5323	A D 2G
Q5324	B C 2G
Q5326	A D 3G
Q5327	B C 3H
Q5328	A D 5G
Q5329	B C 5G
Q5331	A D 9I
Q5332	B C 6I
Q5333	A D 2I
Q5334	B C 2I
Q5335	B C 6H
Q5338	B C 9H
Q5339	A D 10F
Q5340	B C 9F
Q5341	B C 10G
Q5342	A D 3H
RESISTOR	
R5001	A D 12B
R5101	A D 7A
R5102	A D 7B
R5103	A D 7B
R5104	A D 8D
R5106	A D 7B
R5107	A D 6C
R5108	B C 6C
R5109	A D 6B
R5110	B C 7B
R5111	B C 6D
R5112	B C 7C
R5151	A D 4A
R5152	A D 4A
R5153	A D 4A
R5154	A D 7A
R5156	A D 4A
R5157	A D 3B
R5158	B C 2A
R5159	A D 3A
R5160	B C 4B
R5161	B C 3B
R5162	B C 3C
R5201	B C 6E
R5202	B C 6E
R5203	B C 6E
R5204	B C 5F
R5205	B C 6E
R5206	B C 5F
R5207	A D 10F
R5208	A D 9G
R5209	A D 9G
R5210	B C 9F
R5211	A D 9G
R5212	A D 10H
R5213	B C 5F
R5251	B C 2A
R5252	B C 2B
R5253	B C 2B
R5254	B C 1B
R5255	B C 1B
R5256	B C 1B
R5261	B C 2B
R5321	B C 5G
R5322	B C 8I
R5323	B C 8H
R5324	B C 8I
R5325	B C 8H
R5326	B C 3H
R5327	B C 2H
R5328	B C 3H
R5329	B C 2H
R5330	B C 5G
R5331	B C 9I
R5332	B C 2G
R5333	B C 2G
R5334	B C 3I
R5335	B C 2I
R5336	B C 1H
R5337	B C 1H
R5338	B C 9H
R5339	B C 10I
R5340	A D 9I
R5341	B C 6H
R5342	B C 6H
R5343	B C 10F
R5344	B C 9G
R5345	B C 1I
R5346	B C 1H
R5347	B C 2I
R5348	B C 6H
R5349	A D 6H
OTHER	
FC5001	A D 11A
FC5002	A D 11C
K5101	A D 8B
K5102	A D7C
K5151	A D 5B
K5152	A D 4B

REF.NO.	LOCATION
T5001	A D 8D
T5051	A D 5C
VA5001	A D 12D

4.24 MAIN CIRCUIT BOARD

<03> MAIN LPB10149-001B



COMPONENT PARTS LOCATION GUIDE <MAIN> LPB10149-001B

REF.NO.	LOCATION
CAPASITOR	
C1	B C 13E
C2	B C 13F
C3	B C 12F
C4	B C 12F
C5	A D 12F
C6	B C 12F
C7	B C 14F
C8	B C 14E
C9	A D 12J
C10	B C 13H
C11	B C 13H
C12	B C 13K
C13	B C 13I
C14	B C 13J
C15	B C 13J
C16	B C 12H
C17	A D 12I
C19	A D 12J
C20	A D 12I
C21	B C 12H
C22	A D 11I
C23	B C 12H
C24	B C 11J
C25	B C 11H
C26	B C 10I
C27	B C 10J
C28	A D 10J
C29	B C 10J
C30	B C 10J
C31	A D 8I
C32	B C 10H
C33	A D 10I
C34	B C 9J
C35	B C 9J
C36	A D 9I
C37	A D 8H
C38	A D 9H
C39	B C 10H
C40	A D 8G
C44	B C 11D
C45	B C 8H
C46	B C 9I
C47	A D 10J
C51	B C 9I
C56	B C 9J
C59	B C 6F
C60	A D 6G
C61	B C 7G
C63	B C 13I
C64	B C 10K
C65	A D 13G
C69	B C 11D
C70	B C 11D
C71	B C 6E
C72	B C 7F
C73	B C 6F
C74	B C 7F
C77	B C 5F
C78	B C 5E
C80	B C 11I
C82	B C 13J
C84	B C 13K
C93	B C 7F
C103	B C 6F
C106	B C 12K
C108	B C 10K
C109	B C 12K
C110	B C 12J
C112	B C 10J
C114	B C 10K
C139	B C 13K
C140	B C 8I
C142	B C 18K
C143	B C 8G
C201	B C 16G
C202	B C 16H
C203	B C 16G
C204	A D 17G
C205	B C 17G
C206	B C 17G
C207	B C 17G
C208	B C 18G
C209	A D 16H
C210	B C 16H
C211	B C 16I
C212	B C 17H
C213	B C 17H
C214	B C 17H
C215	B C 17H
C216	B C 17H
C217	B C 18I
C218	A D 18I
C219	B C 18H
C220	B C 18H
C221	A D 18G
C222	A D 17F
C301	B C 5C
C302	B C 6C
C303	B C 6D
C304	B C 6D
C305	B C 6D
C306	B C 6C
C307	B C 7C
C308	B C 6D
C309	B C 7D
C310	B C 7C
C311	B C 7D
C312	B C 7D
C313	B C 7D
C314	B C 7D
C315	B C 7D
C316	B C 6D
C317	B C 6E
C318	B C 6D
C319	B C 5D
C320	B C 5E
C321	B C 6D
C322	B C 6D
C323	A D 6C
C324	B C 7C
C401	B C 13D
C402	B C 13D
C403	B C 14E
C404	B C 13D
C405	B C 20B
C406	B C 13D
C407	B C 13D
C408	B C 12M
C409	A D 12D
C411	B C 13H
C412	B C 13K
C413	B C 13I
C414	B C 13J
C415	B C 13J
C416	B C 12H
C417	A D 12I
C418	B C 11J
C419	A D 12J
C420	A D 12I
C421	B C 12H
C422	A D 11I
C423	B C 12H
C424	B C 11J
C425	B C 11H
C426	B C 10I
C427	B C 10J
C428	A D 10K
C429	A D 10J
C430	A D 10K
C431	A D 9I
C432	A D 8H
C433	A D 9H
C434	A D 8G
C435	A D 9G
C436	A D 8G
C437	A D 9G
C438	A D 8F
C439	A D 9F
C440	A D 8F
C441	A D 9F
C442	A D 8E
C443	A D 9E
C444	A D 8E
C445	A D 9E
C446	A D 8D
C447	A D 9D
C448	A D 8D
C449	A D 9D
C450	A D 8C
C451	A D 9C
C452	A D 8C
C453	A D 9C
C454	A D 8B
C455	A D 9B
C456	A D 8B
C457	A D 9B
C458	A D 8A
C459	A D 9A
C460	A D 8A
C461	A D 9A
C462	A D 8A
C463	A D 9A
C464	A D 8A
C465	A D 9A
C466	A D 8A
C467	A D 9A
C468	A D 8A
C469	A D 9A
C470	A D 8A
C471	A D 9A
C472	A D 8A
C473	A D 9A
CN3014	A D 11A
CN3901	A D 6A
CN6701	A D 20N
CN7501	A D 22F
CN7502	A D 22M
CN7503	A D 22J
CN7504	A D 22G
CN7505	A D 22C
CN7506	A D 20J
CN7507	A D 21B
CN7508	A D 16J
CN7509	A D 16N
CN7510	A D 1K
DIODE	
D1	B C 14E
D2	B C 14K
D3	A D 8G
D8	B C 8J
D201	A D 15G
D202	A D 18I
D203	A D 18I
D204	A D 18I
D701	B C 17F
D2001	A D 11K
D2202	A D 8G
D3001	A D 7H
D3002	A D 10N
D3003	A D 15J
D3004	A D 10L
D3005	A D 10L
D3007	B C 2L
D3008	B C 6P
D4001	B C 8L
D4002	B C 8L
D5401	A D 15M
D5402	A D 21C
D6003	A D 20N
D6002	A D 20O
D6040	B C 17N
D6551	A D 18N
IC	
IC1	B C 11G
IC201	A D 16H
IC301	A D 5D
IC601	A D 19I
IC701	B C 19E
IC702	B C 20E
IC703	B C 20D
IC704	B C 17D
IC705	B C 19F
IC706	B C 20F
IC2601	B C 19C
IC2602	B C 18B
IC2603	B C 19C
IC2604	B C 20B
IC2605	B C 20C
IC2606	B C 19B
IC3001	B C 6M
IC3002	B C 4M
IC3003	B C 12P
IC3004	A D 12N
IC3005	A D 11P
IC3601	B C 2H
IC3651	B C 2F
COIL	
L1	A D 12D
L2	A D 13K
L3	A D 11I
L4	A D 8H
L5	A D 8G
L11	A D 11H
L12	A D 11I
L13	A D 10J
L15	A D 5G
L17	A D 7E
L18	A D 7F
L19	A D 6G
L20	A D 13K
L24	A D 12K
L27	A D 10K
L28	A D 12J
L30	A D 9I
L31	A D 18K
L201	A D 16G
L202	A D 18H
L203	A D 17G
L204	A D 18F
L205	A D 17I
L206	A D 17I
L301	A D 6C
L302	A D 7C
L303	A D 7D
L304	A D 8C
L401	A D 13D
L402	A D 12D
L601	A D 21J
L701	A D 19E
L702	A D 15D
L703	A D 18E
L704	A D 17F
L705	A D 16G
L2001	A D 12D
L2251	A D 12D
L2252	A D 10D
L3001	A D 11O
L3011	A D 12M
L3012	A D 12M
L6001	A D 18O
L6005	A D 18O
L6032	A D 17O
L6501	A D 18N
L7501	A D 2D
TRANSISTOR	
Q1	B C 13E
Q2	B C 13E
Q3	B C 13F
Q4	B C 13F
Q5	B C 6G
Q6	B C 7F
Q7	B C 7F
Q8	B C 6F
Q9	B C 6G
Q10	B C 8I
Q11	B C 7H
Q14	B C 6F
Q16	B C 13K
Q17	B C 13J
Q18	B C 12J
Q21	B C 11J
Q24	B C 8G
Q25	B C 9J
Q26	B C 9J
Q28	B C 12J
Q38	B C 12K
Q39	B C 10J
Q40	B C 7H
Q41	B C 10K
Q201	B C 18G
Q202	B C 18G
Q301	B C 7C
Q302	B C 6E
Q303	B C 7C
Q311	B C 6C
Q312	B C 6C
Q401	B C 13D
Q402	B C 13D
Q403	B C 13D
Q405	B C 12C
Q701	B C 16D
Q702	B C 19G
Q703	B C 19F
Q704	B C 20G
Q705	B C 20F
Q706	B C 17E
Q707	B C 18F
Q708	B C 18E
Q709	B C 18F
Q710	B C 16F
Q711	B C 17F
Q712	B C 16F
Q713	B C 16E
Q714	B C 16E
Q715	B C 19G
Q716	B C 20F
Q717	B C 16F
Q718	B C 16F
Q719	B C 16F
Q720	B C 17F
Q721	B C 16E
Q722	B C 17E
Q723	B C 16E
Q2001	B C 13H
Q2002	B C 13H
Q2003	B C 13I
Q2005	B C 14H
Q2006	B C 13J
Q2051	B C 12L
Q2052	B C 11K
Q2053	B C 11L
Q2054	B C 11L
Q2061	B C 9A
Q2062	B C 8B
Q2251	B C 9C
Q2252	B C 10C
Q2601	B C 19B
Q2602	B C 19B
Q3001	B C 12N
Q3002	A D 8P
Q3003	A D 8A
Q3004	B C 11M
Q3005	B C 12M
Q3007	B C 6O
Q3009	B C 3N
Q3010	B C 5A
Q3011	B C 4A
Q3901	B C 5L
Q4001	B C 9O
Q4002	B C 9O
Q4003	B C 9O
Q5401	A D 15O
Q5402	B C 14N
Q5403	A D 21C
Q5404	A D 21N
Q6030	B C 18O
Q6031	B C 17O
Q6032	B C 18N
Q6040	B C 17N
Q6041	B C 17N
Q6042	B C 17N
Q6501	B C 19M
Q6502	B C 19N
Q6551	A D 18M
Q7501	B C 16F
Q7502	A D 2D
RESISTOR	
R1	B C 13H
R2	B C 13I
R3	B C 13K
R4	B C 11J
R5	B C 11J
R6	B C 10J
R7	B C 10I
R8	B C 8H
R9	B C 8H
R21	B C 11D
R22	B C 11C
R23	B C 6G
R24	B C 6E
R25	B C 6F
R26	B C 7F
R27	B C 7F
R28	B C 7F
R29	B C 7F
R31	B C 7G
R32	B C 6F
R33	B C 13J
R35	B C 13K
R36	B C 9H
R37	B C 10H
R38	B C 10I
R39	B C 7H
R40	B C 9I
R41	B C 9I
R42	B C 9J
R43	B C 9H
R46	B C 11K
R48	B C 10J
R51	B C 7G
R54	B C 12I
R62	B C 12J
R65	B C 6E
R67	B C 6F
R68	B C 6F
R70	B C 12J
R75	B C 12I
R77	B C 14F
R88	B C 8G
R90	B C 12J
R91	B C 8J
R92	B C 12K
R93	B C 12K
R104	B C 12K
R111	B C 11J
R113	B C 6G
R117	B C 9J
R201	B C 18G
R202	B C 16H
R203	B C 16H
R204	B C 18G
R205	B C 18G
R206	B C 16H
R207	B C 18G
R208	B C 16G
R209	B C 17G
R210	B C 17G
R211	B C 17G
R212	B C 17J
R213	B C 17J
R214	B C 18J
R215	B C 18I
R216	B C 17I
R217	B C 17I
R218	B C 17J
R219	B C 18I
R220	B C 18I
R221	B C 18H
R301	B C 5C
R302	B C 6C
R303	B C 6C
R304	B C 7C
R305	B C 7C
R306	B C 6D
R307	B C 7C
R308	B C 7D
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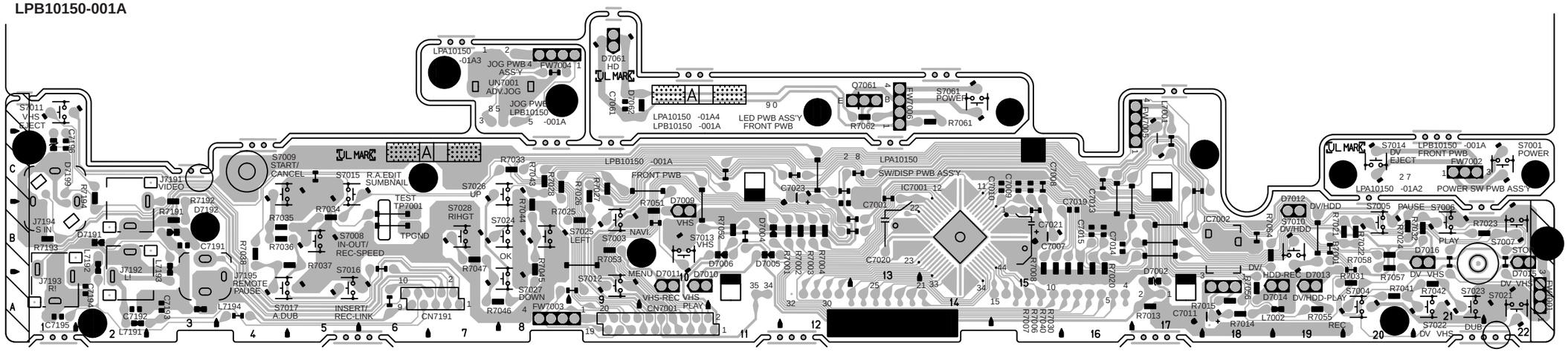

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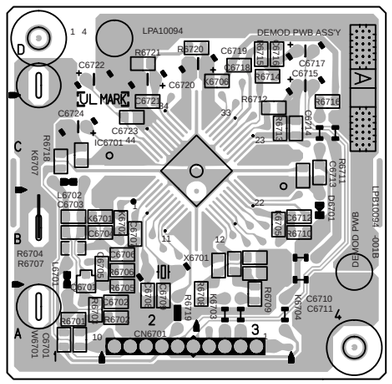

COMPONENT PARTS LOCATION GUIDE
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C1504	A	D	4C
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C1507	A	D	2C
C1508	A	D	1D
C1509	A	D	2C
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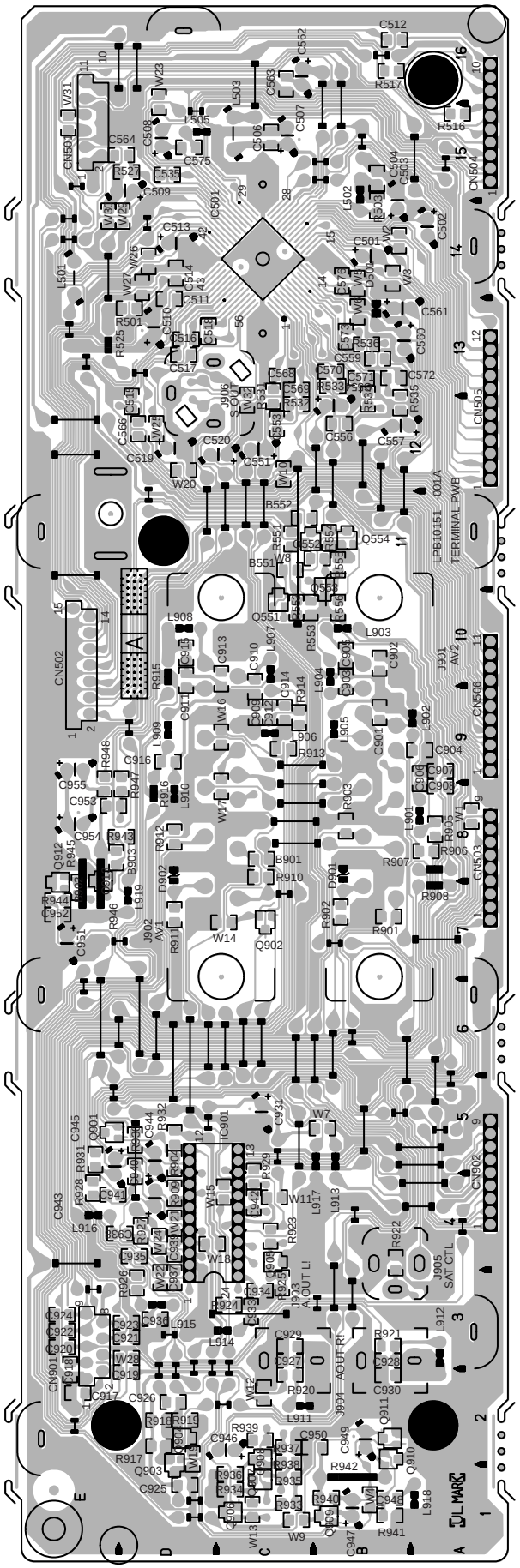
C1518	A	D	3A
C1519	A	D	3B
C1520	A	D	3A
C1521	A	D	2C
CONNECTOR			
CN1501	A	D	3A
IC			
IC1501	B	C	2C
TRANSISTOR			
Q1501	A	D	3B
Q1502	A	D	3B
RESISTOR			
R1501	A	D	4C
R1502	A	D	2C
R1503	A	D	2C
R1504	A	D	2B
R1505	A	D	2B
R1506	A	D	2B
R1507	A	D	2B
R1508	A	D	3B
R1509	A	D	3B
R1510	A	D	4B
R1511	A	D	3A
R1514	A	D	2B
R1515	A	D	2C
R1517	A	D	2C

4.27 TERMINAL CIRCUIT BOARD

<06> TERMINAL LPB10151-001A



COMPONENT PARTS LOCATION GUIDE
<TERMINAL> LPB10151-001A

REF.NO.	LOCATION	REF.NO.	LOCATION
CAPASISTOR		L503	A D 15C
C501	A D 14B	L505	A D 15C
C502	A D 14A	L901	A D 8A
C503	A D 14B	L902	A D 9A
C504	B C 15B	L903	A D 10B
C506	B C 15C	L904	A D 9B
C507	A D 15C	L905	A D 9B
C508	A D 15D	L906	A D 9C
C509	A D 15D	L907	A D 10C
C510	A D 13D	L908	A D 10D
C511	B C 13D	L909	A D 9D
C512	B C 16B	L910	A D 9D
C513	A D 14D	L911	A D 2C
C514	B C 14D	L912	A D 3A
C515	B C 12D	L913	A D 4B
C516	B C 13D	L914	A D 3D
C517	B C 13D	L915	A D 3D
C518	B C 13D	L916	A D 4E
C519	A D 12D	L917	A D 5B
C520	A D 12C	L918	A D 1A
C535	B C 15D	L919	A D 8D
C551	A D 12C		
C553	B C 12C	**TRANSISTOR**	
C554	A D 12B	Q551	B C 10C
C556	B C 12B	Q552	B C 11C
C557	A D 12B	Q553	B C 11B
C559	B C 13B	Q554	B C 11B
C560	A D 13B	Q901	B C 5E
C561	A D 13B	Q902	B C 7C
C562	A D 16C	Q903	B C 1D
C563	B C 16C	Q904	B C 2D
C564	B C 15D	Q905	B C 4C
C566	B C 12D	Q906	B C 1C
C568	B C 13C	Q907	B C 1C
C569	B C 13C	Q908	B C 2C
C570	B C 13B	Q909	B C 1B
C571	B C 13B	Q910	B C 2B
C572	B C 13B	Q911	B C 2B
C573	B C 13B	Q912	B C 7E
C575	B C 15D	Q913	B C 8E
C576	B C 14B		
C901	B C 9B	**RESISTOR**	
C902	B C 10B	R501	B C 13D
C903	B C 10B	R503	B C 14B
C904	B C 9A	R516	B C 15A
C905	B C 10B	R517	B C 16B
C906	B C 9A	R525	A D 13E
C907	B C 9A	R527	B C 15D
C908	B C 8A	R531	B C 12C
C909	B C 9C	R532	B C 12C
C910	B C 10C	R533	B C 13B
C911	B C 10D	R534	B C 12B
C912	B C 9C	R535	B C 12B
C913	B C 10C	R536	B C 13B
C914	B C 9C	R551	B C 11C
C915	B C 10D	R552	B C 10C
C916	B C 9D	R553	B C 10C
C917	B C 2E	R554	B C 11B
C918	B C 2E	R555	B C 11B
C919	B C 2D	R556	B C 10B
C920	B C 3E	R901	B C 7B
C921	B C 3D	R902	B C 7B
C922	B C 3E	R903	B C 8B
C923	B C 3D	R904	B C 5D
C924	B C 3E	R905	B C 8A
C925	B C 1D	R906	B C 8A
C926	B C 2D	R907	A D 8A
C927	B C 3C	R908	A D 7A
C928	B C 3B	R909	B C 4D
C929	B C 3C	R910	B C 8C
C930	B C 2B	R911	B C 7D
C931	A D 5C	R912	B C 8D
C933	B C 3C	R913	B C 9C
C934	B C 3C	R914	B C 9C
C935	B C 4D	R915	A D 10D
C936	B C 3D	R916	A D 8D
C937	B C 3D	R917	B C 2D
C938	B C 4D	R918	B C 2D
C939	B C 4D	R919	B C 2D
C940	B C 5D	R920	B C 2C
C941	B C 4E	R921	B C 3B
C942	B C 4C	R922	B C 4B
C943	A D 4D	R923	B C 4C
C944	A D 5D	R924	B C 3C
C945	A D 5E	R925	B C 3C
C946	A D 2C	R926	B C 3D
C947	A D 1B	R927	B C 4D
C948	B C 1B	R928	B C 4E
C949	A D 2B	R929	B C 4C
C950	B C 2B	R930	B C 5D
C951	A D 7E	R931	B C 5E
C952	B C 7E	R932	B C 5D
C953	B C 8E	R933	B C 1C
C954	A D 8E	R934	B C 1C
C955	A D 9E	R935	B C 1C
		R936	B C 1C
CONNECTOR		R937	B C 2C
CN501	A D 15E	R938	B C 2C
CN502	A D 9E	R939	B C 2C
CN503	A D 7A	R940	B C 1B
CN504	A D 15A	R941	B C 1B
CN505	A D 12A	R942	A D 1B
CN506	A D 9A	R943	B C 8D
CN901	A D 2E	R944	B C 7E
CN902	A D 4A	R945	A D 7E
		R946	A D 7E
DIODE		R947	B C 9D
D501	A D 14B	R948	B C 9E
D901	A D 8B		
D902	A D 8D	**OTHER**	
		J901	A D 8B
IC		J902	A D 8C
IC501	B C 14C	J903	A D 3C
IC901	A D 3D	J904	A D 3B
		J905	A D 4B
COIL		J906	A D 13D
L501	A D 14E		
L502	A D 14B		

COMPONENT PARTS LOCATION GUIDE <DV MAIN> LPB10165-001B

REF.NO.	LOCATION
CAPASISTOR	
C1001	A C 1C
C1002	B C 1C
C1003	A C 2E
C1004	A C 2E
C1005	A C 1F
C1006	B C 1F
C1007	B C 2F
C1008	B C 2D
C1009	B C 2C
C1010	B C 1E
C1011	B C 1E
C1012	B C 2F
C1014	B C 2F
C1015	B C 1F
C1016	B C 2F
C1017	B C 2F
C1018	B C 2E
C1019	A C 1E
C1020	B C 2E
C1021	B C 2F
C1022	A C 2C
C1023	B C 2C
C1024	B C 1C
C1025	B C 2C
C1026	A C 2C
C1027	B C 2C
C1028	A C 2B
C1029	B C 2C
C1030	B C 2B
C1501	A C 5D
C1502	A C 5D
C1504	B C 6E
C1505	B C 7D
C1506	B C 7D
C1507	B C 7D
C1508	B C 7D
C1509	A C 8D
C1510	A C 8D
C1515	B C 8C
C1516	B C 8C
C1517	B C 8C
C1518	B C 8C
C1520	A C 6B
C1521	B C 7B
C1522	A C 8B
C1523	A C 8C
C1531	B C 6A
C1532	A C 6B
C1533	A C 6A
C1534	A C 6A
C1535	A C 6A
C2001	A C 7F
C2002	A C 8F
C2003	B C 6G
C2005	A C 8F
C2006	B C 7G
C2007	B C 7G
C2008	B C 8G
C2009	B C 8G
C2010	A C 7F
C2011	A C 8F
C2014	B C 8H
C2015	B C 8H
C2016	B C 6G
C2017	B C 7F
C2018	B C 6E
C2019	B C 7E
C2020	B C 8H
C2021	B C 6E
C2022	B C 7H
C2023	A C 7G
C2024	B C 7H
C2025	B C 7G
C2026	B C 6H
C2027	B C 6H
C2028	B C 7H
C2029	B C 7H
C2031	B C 6G
C2032	B C 6F
C2036	A C 7F
C2037	A C 7G
C2038	A C 6G
C2039	A C 7F
C2040	B C 6F
C2041	A C 7F
C2042	B C 7G
C2043	A C 7F
C2044	A C 7F
C2046	A C 8F
C2047	A C 8F
C2048	A C 8F
C2051	A C 5F
C2052	B C 5F
C2053	A C 8G
C2054	A C 8H
C2055	A C 5F
C2056	B C 5F
C2057	B C 5F
C2058	A C 5F
C2059	A C 5F
C2060	B C 5F
C2061	B C 5F
C2062	A C 5F
C2063	A C 8F
C2064	A C 8F
C2101	B C 9F
C2102	B C 8F
C2103	B C 9F
C2104	B C 9F
C2105	B C 9F
C2113	B C 9F
C2114	B C 9F
C2115	B C 8F
C2116	B C 8G
C2117	B C 8G
C2118	A C 9G
C2119	B C 8F

REF.NO.	LOCATION
C3001	A C 5H
C3002	B C 4H
C3003	B C 4H
C3004	A C 5G
C3005	A C 5G
C3006	B C 4G
C3007	B C 4G
C3008	B C 4G
C3009	A C 5G
C3010	A C 5G
C3011	A C 4H
C3012	A C 5H
C3013	A C 5G
C3014	A C 6H
C3015	B C 5H
C3016	B C 5H
C3017	B C 5H
C3018	A C 4G
C3021	A C 3G
C3022	A C 3G
C3101	A C 3G
C3102	A C 2H
C3103	A C 2H
C3106	A C 5H
C3107	A C 5H
C3108	A C 5G
C3109	A C 5G
C3111	B C 1H
C3112	A C 1H
C3113	B C 3H
C3114	B C 3H
C3115	B C 3H
C3116	B C 3H
C3117	B C 3H
C3118	B C 4H
C3119	B C 4H
C3120	B C 4H
C3121	B C 1H
C3123	B C 2H
C3124	B C 3H
C3125	B C 3H
C3126	B C 3H
C3127	B C 3G
C3128	B C 4G
C3129	B C 4G
C3130	B C 4G
C3131	A C 3C
C3132	A C 3C
C3140	A C 9E
C3141	A C 9D
C3142	A C 9D
C3143	A C 9E
C3144	A C 8E
C3501	B C 2G
C3502	B C 2G
C3503	B C 2G
C3504	A C 2F
C3505	A C 2F
C3506	A C 2F
C3507	A C 1G
C3508	A C 1G
C3509	A C 1G
C3510	B C 2G
C3511	B C 2G
C3513	B C 2G
C3514	B C 2G
C3515	A C 2G
C3516	A C 1H
C3517	A C 2H
C3521	A C 2H
C3523	A C 3H
C3531	B C 3G
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C3535	B C 2G
C3536	B C 3G
C3537	B C 3G
C3538	B C 3G
C3539	B C 2G
C3540	B C 2G
C3701	A C 3B
C3702	A C 3B
C3703	B C 4B
C3704	A C 3A
C3705	A C 4B
C3706	A C 4A
C3707	A C 4A
C3708	A C 4B
C3709	A C 4A
C3710	A C 4B
C3711	A C 4B
C3712	A C 4B
C3713	A C 4B
C3714	A C 3B
C3715	B C 3B
C3716	B C 4B
C3717	A C 4B
C3718	A C 4B
C3722	A C 4C
C3723	A C 4C
C3724	A C 4C
C3725	A C 4C
C3726	A C 4C
C3728	B C 3C
C3729	A C 3C
C3730	A C 3B
C3731	B C 3B
C3733	A C 4B
C3734	A C 4B
C3735	A C 4B
C3736	A C 4B
C3737	A C 4B
C4001	A C 3F
C4002	A C 3F
C4003	A C 3F
C4005	A C 4F
C4006	A C 4F

REF.NO.	LOCATION
C4007	A C 3F
C4009	A C 4F
C4010	A C 4F
C4011	A C 4F
C4013	A C 3C
C4014	B C 4C
C4015	A C 4C
C4021	A C 3E
C4022	A C 3E
C4023	A C 3E
C4024	A C 3E
C4025	A C 4E
C4026	A C 4D
C4027	A C 4D
C4028	A C 3D
C4029	A C 3D
C4030	A C 3D
C4031	A C 3D
C4032	A C 3D
C4033	A C 3D
C4034	A C 3D
C4035	A C 3D
C4036	A C 3D
C4038	A C 3D
C4039	A C 3E
C4040	A C 3E
C4041	A C 3E
C4046	A C 2E
C4047	A C 3E
CONNCTOR	
CN1001	A C 1D
CN1501	A C 3B
CN1502	B C 9B
CN1503	A C 1B
CN1505	B C 9C
CN2001	A C 2A
CN3501	A C 1G
CN3701	A C 1C
CN4001	A C 4D
DIODE	
D1501	A C 7B
D1502	B C 8C
D1503	B C 6B
D2002	B C 8H
D2003	B C 6H
D2004	B C 7H
IC	
IC1001	A C 2F
IC1002	A C 2E
IC1003	A C 2C
IC1004	A C 2C
IC1005	A C 1E
IC1501	A C 7C
IC1502	B C 8B
IC1503	A C 5B
IC1504	A C 7A
IC1505	A C 6A
IC1601	A C 6E
IC2001	B C 7F
IC2002	A C 9F
IC2006	A C 8G
IC2007	A C 9F
IC3001	B C 5G
IC3101	A C 9E
IC3102	A C 9E
IC3151	B C 3C
IC3501	A C 2G
IC3701	B C 4B
IC3702	A C 4C
IC3703	A C 4C
IC4001	A C 3D
IC4002	A C 3E
COIL	
L1001	A C 1C
L1002	A C 1D
L1003	A C 1D
L1004	A C 1E
L1501	A C 7A
L1502	A C 8D
L1505	A C 6A
L2001	A C 8H
L2002	B C 5F
L2003	B C 5F
L2004	B C 5F
L2005	B C 5F
L2006	B C 5F
L2007	A C 8E
L2009	B C 8H
L2010	B C 7G
L2011	B C 6G
L2015	A C 9G
L3001	A C 4G
L3021	A C 3G
L3022	A C 4H
L3101	A C 2H
L3103	A C 5H
L3104	A C 5G
L3111	B C 3H
L3112	B C 3H
L3131	B C 3H
L3132	B C 3G
L3151	A C 3C
L3521	B C 2G
L3522	B C 3G
L3531	B C 3G
L3532	B C 3G
L3533	B C 3G
L3534	B C 3G
L3701	B C 3B
L3702	B C 3B
L4001	A C 3F
L4002	A C 3F
L4003	A C 4F
L4005	A C 3C

REF.NO.	LOCATION
TRANSISTOR	
Q1001	A C 2F
Q1002	B C 2F
Q1003	A C 3F
Q1004	B C 3F
Q1005	A C 2C
Q1006	B C 2C
Q1007	A C 2C
Q1008	B C 2C
Q1501	B C 5B
Q1502	B C 6B
Q1511	A C 7E
Q1512	A C 8B
Q1513	A C 8B
Q3101	B C 3G
Q3102	B C 3G
Q3111	B C 2H
Q3112	B C 4H
Q3113	B C 4H
Q3114	B C 4H
Q3115	B C 2H
Q3131	B C 2H
Q3132	B C 4G
Q3133	B C 4G
Q3135	B C 2H
Q3501	B C 2F
Q3502	B C 2G
Q3503	B C 2G
Q3511	B C 2G
Q3512	B C 1G
Q3513	B C 1F
RESISTOR	
R1001	B C 2F
R1002	B C 2F
R1003	B C 3F
R1004	B C 3F
R1005	B C 2C
R1006	B C 2C
R1007	B C 2C
R1008	B C 2C
R1009	B C 1E
R1501	B C 5B
R1502	A C 5B
R1505	A C 5D
R1506	A C 6D
R1507	A C 6D
R1508	A C 6D
R1509	A C 6D
R1510	A C 6D
R1511	A C 6D
R1512	A C 6D
R1516	A C 8E
R1517	A C 8E
R1518	A C 7E
R1519	A C 7E
R1520	A C 7E
R1521	B C 8C
R1522	B C 8B
R1531	B C 8C
R1532	B C 8C
R1533	B C 8C
R1534	B C 8C
R1535	B C 6B
R1536	B C 7B
R1537	B C 7B
R1541	A C 7B
R1542	A C 7B
R1543	B C 8B
R1544	B C 7B
R1545	B C 7B
R1551	A C 6B
R1552	A C 6B
R1553	A C 6B
R1554	A C 6B
R1555	A C 6B
R1556	A C 6B
R1557	A C 6B
R1558	A C 6B
R1561	A C 7A
R1571	A C 6A
R1572	A C 6A
R1581	B C 9C
R1582	B C 5B
R1583	B C 5B
R1584	A C 6B
R1585	A C 6B
R1586	A C 2B
R1601	B C 6E
R1602	A C 6E
R1603	B C 6E
R1604	B C 6E
R1605	A C 5D
R1611	A C 8B
R1612	A C 8B
R1613	A C 8B
R1614	B C 8B
R1615	B C 8B
R1616	B C 8B
R1617	B C 8B
R1621	A C 5B
R1622	A C 5B
R1625	B C 7A
R2011	B C 8F
R2012	B C 8F
R2013	B C 8F
R2014	B C 8F
R2016	B C 8G
R2017	B C 8G
R2018	A C 8G
R2019	A C 8G
R2020	A C 8G
R2021	B C 7H
R2022	B C 7H
R2023	B C 7H
R2027	B C 8H
R2031	B C 7H
R2032	B C 7H

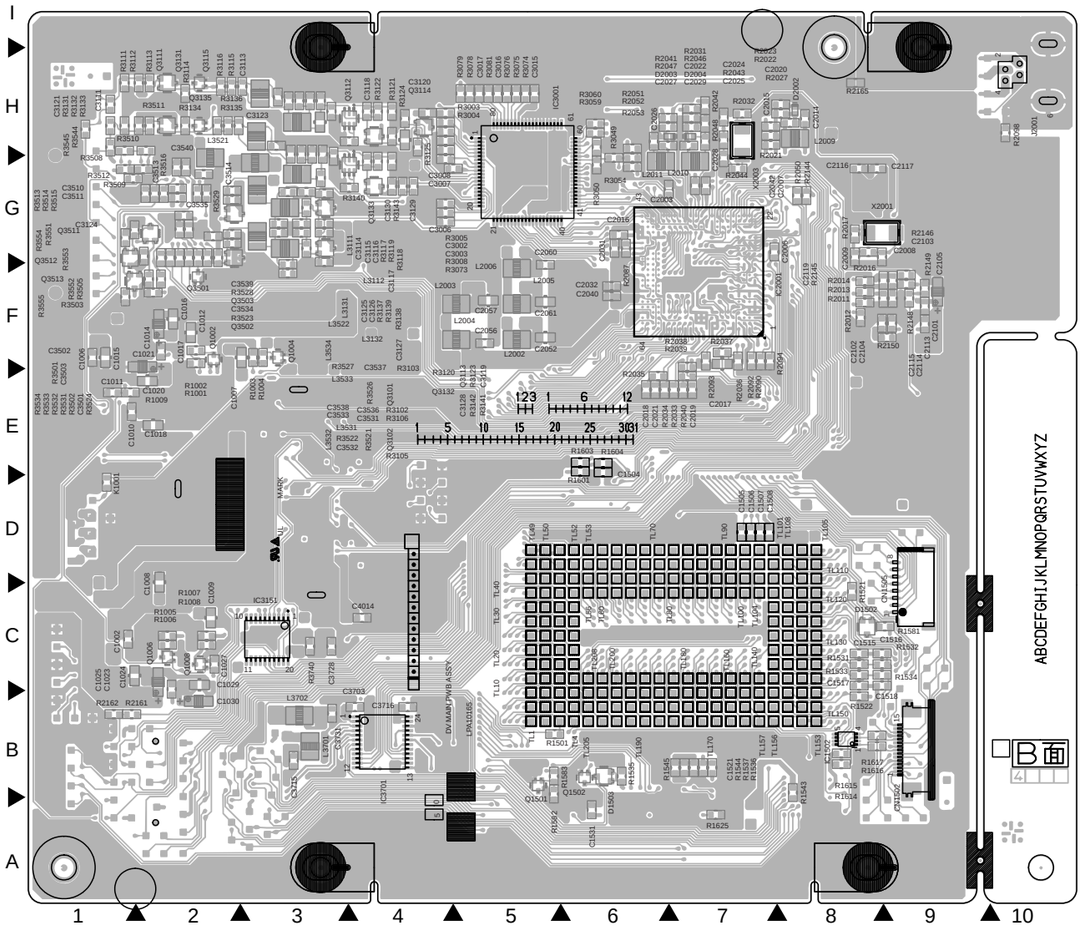
REF.NO.	LOCATION
R2033	B C 7E
R2034	B C 6E
R2035	B C 6E
R2036	B C 7F
R2037	B C 7F
R2038	B C 7F
R2039	B C 7E
R2040	B C 7E
R2041	B C 6H
R2042	B C 7H
R2043	B C 7H
R2044	B C 7G
R2046	B C 7H
R2047	B C 6H
R2048	B C 7H
R2050	B C 8G
R2051	B C 6H
R2052	B C 6G
R2053	B C 6G
R2071	A C 8F
R2072	A C 7F
R2073	A C 8F
R2074	A C 8F
R2087	B C 6G
R2090	B C 7F
R2091	A C 7F
R2092	B C 7F
R2093	B C 7F
R2094	B C 7F
R2098	B C 10H
R2140	A C 8F
R2141	A C 8F
R2142	A C 8F
R2144	B C 8G
R2145	B C 9F
R2146	B C 9F
R2148	B C 9F
R2149	B C 9F
R2150	B C 9F
R2161	B C 1B
R2162	B C 1B
R2165	B C 8H
R3003	B C 4H
R3004	B C 4H
R3005	B C 4H
R3008	B C 4G
R3048	A C 6G
R3049	B C 6H
R3050	B C 6G
R3054	B C 6G
R3059	B C 6H
R3060	B C 6H
R3073	B C 4G
R3074	B C 5H
R3075	B C 5H
R3076	B C 5H
R3078	B C 5H
R3079	B C 5H
R3081	B C 5H
R3102	B C 3G
R3103	B C 3G
R3105	B C 3F
R3106	B C 3G
R3111	B C 1H
R3112	B C 2H
R3113	B C 2H
R3114	B C 2H
R3115	B C 2H
R3116	B C 2H
R3117	B C 3H
R3118	B C 3H
R3119	B C 3H
R3120	B C 4H
R3121	B C 4H
R3122	B C 4H
R3123	B C 4H
R3124	B C 4H
R3125	B C 4H
R3131	B C 1H
R3132	B C 2H
R3133	B C 2H
R3134	B C 2H
R3135	B C 2H
R3136	B C 2H
R3137	B C 3H
R3138	B C 3G
R3139	B C 3H
R3140	B C 4G
R3141	B C 4G
R3142	B C 4G
R3143	B C 4G
R3161	A C 9E
R3162	A C 9D
R3163	A C 9E
R3164	A C 8E
R3165	A C 9E
R3501	B C 2G
R3502	B C 2G
R3503	B C 2F
R3504	A C 2G
R3505	B C 2F
R3506	A C 2G
R3507	A C 2G
R3508	B C 2G
R3509	B C 1G
R3510	B C 1H
R3511	B C 2H
R3512	B C 1G
R3513	B C 2G
R3514	B C 2G
R3515	B C 2G
R3516	B C 2G
R3521	B C 3G
R3522	B C 3F
R3523	B C 2G
R3524	B C 2G
R3526	B C 3G
R3527	B C 3G

REF.NO.	LOCATION
R3528	B C 2G
R3529	B C 2G
R3531	B C 2G
R3532	B C 2G
R3533	B C 2G
R3534	B C 2G
R3541	A C 1F
R3542	A C 1F
R3543	A C 1G
R3544	B C 1H
R3545	B C 1H
R3551	B C 1G
R3552	B C 2F
R3553	B C 2G
R3554	B C 1G
R3555	B C 1F
R3556	A C 1G
R3701	A C 3B
R3702	A C 3B
R3703	A C 3B
R3704	A C 3B
R3709	A C 4B
R3711	A C 4B
R3712	A C 4C
R3713	A C 4C
R3714	A C 4C
R3716	A C 4C
R3717	A C 4B
R3719	A C 4B
R3720	A C 4B
R3721	A C 3C
R3722	A C 4C
R3723	A C 4C
R3726	A C 4B
R3727	A C 4B
R3728	A C 3B
R3740	B C 3C
R4001	A C 3E
R4002	A C 3E
R4003	A C 4E
R4004	A C 4E
R4005	A C 4E
R4006	A C 4D
R4007	A C 4D
R4008	A C 4D
R4009	A C 4D
R4010	A C 4D
R4021	A C 3E
RA1505	A C 7D
RA1506	A C 7D
RA1507	A C 7D
RA1508	A C 7D
RA1509	A C 7D
RA1510	A C 7E
OTHER	
K1001	B C 1D
K2001	A C 8F
K2002	A C 8G
K3101	A C 9D
LC1002	A C 1C
LC1003	A C 1E
LC1004	A C 1E
LC3101	A C 9D
PC0973	A C 1H
PC0974	A C 9A
PC0980	A C 9B
PC0984	A C 1H
K4001	A C 3E
X2001	B C 8G
X2003	B C 7H
X3101	A C 8D

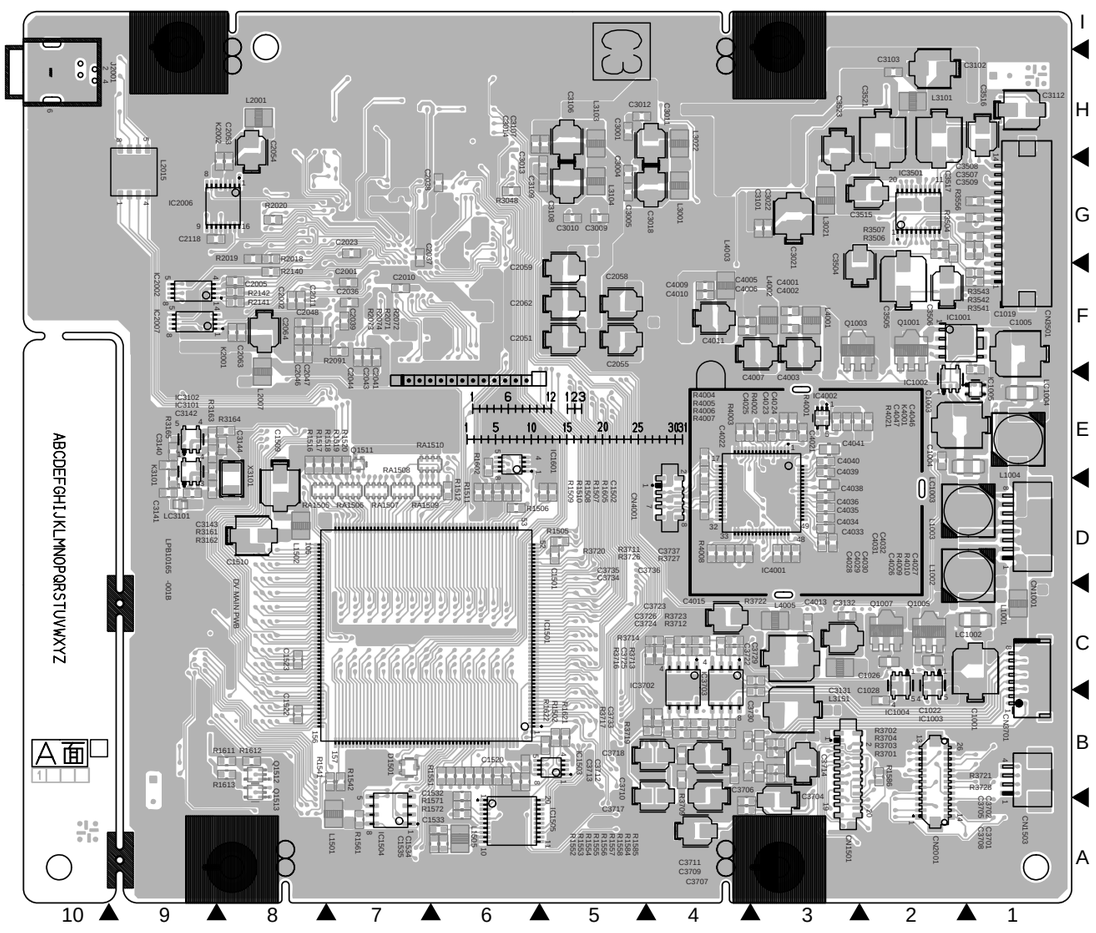
4.28 DV MAIN CIRCUIT BOARD

<50> DV MAIN
LPB10165-001B

-FOIL SIDE(B)-



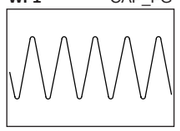
-COMPONENT SIDE(A)-



4.29 WAVEFORMS

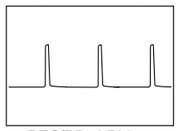
< SYSCON >

WF1 CN3003-2 CAP_FG



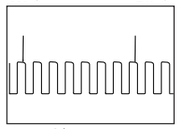
REC/PB 2.7 Vp-p
50 mV/0.5 msec/DIV

WF2 CN3001-4 D.PG



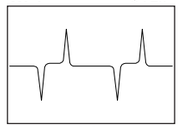
REC/PB 4.5 Vp-p
0.1 V/10 msec/DIV

WF3 CN3001-5 D.FG



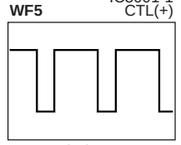
REC/PB 4.5 Vp-p
0.1 V/10 msec/DIV

WF4 TP4001 CTL.P



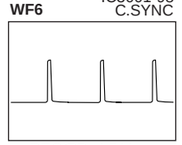
PB 2.2 Vp-p
0.1 V/10 msec/DIV

WF5 IC3001-1 CTL(+)



REC 3.5 Vp-p
0.1 V/10 msec/DIV

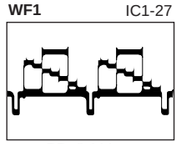
WF6 IC3001-98 C.SYNC



REC/PB 4.5 Vp-p
0.1 V/20 µsec/DIV

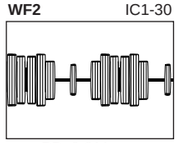
< VIDEO >

WF1 IC1-27



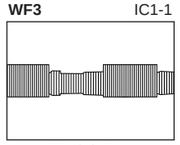
PB 2.1 Vp-p
50 mV/20 µsec/DIV

WF2 IC1-30



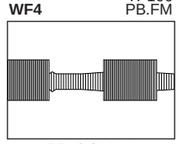
PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF3 IC1-1



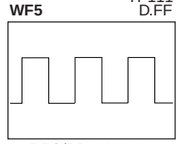
PB 0.3 Vp-p
20 mV/5 msec/DIV

WF4 TP106 PB.FM



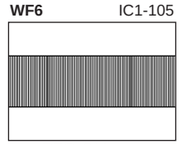
PB 0.3 Vp-p
20 mV/5 msec/DIV

WF5 TP111 D.FF



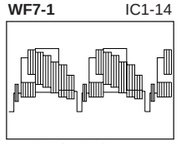
REC/PB 4 Vp-p
0.1 V/10 msec/DIV

WF6 IC1-105



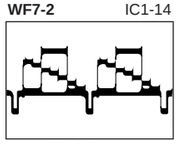
REC 2 Vp-p
0.1 V/1 msec/DIV

WF7-1 IC1-14



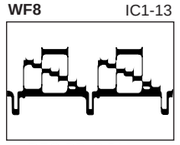
REC 0.52 Vp-p
20 mV/20 µsec/DIV

WF7-2 IC1-14



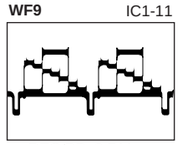
PB 0.5 Vp-p
20 mV/20 µsec/DIV

WF8 IC1-13



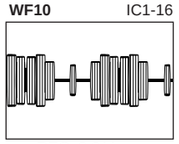
REC/PB 0.5 Vp-p
20 mV/20 µsec/DIV

WF9 IC1-11



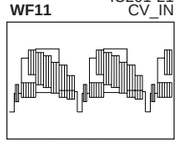
REC/PB 0.7 Vp-p
20 mV/20 µsec/DIV

WF10 IC1-16



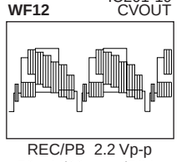
REC 0.6 Vp-p
20 mV/20 µsec/DIV

WF11 IC201-21 CV_IN



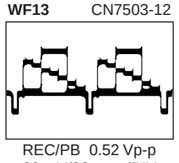
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF12 IC201-19 CVOUT



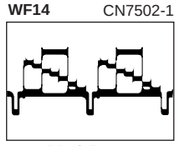
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF13 CN7503-12



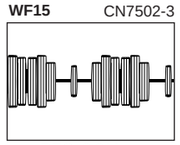
REC/PB 0.52 Vp-p
20 mV/20 µsec/DIV

WF14 CN7502-1



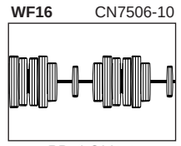
PB 0.5 Vp-p
20 mV/20 µsec/DIV

WF15 CN7502-3



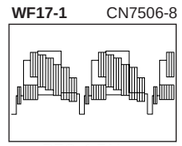
REC 0.6 Vp-p
20 mV/20 µsec/DIV

WF16 CN7506-10



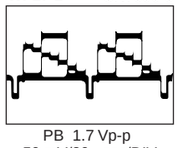
PB 1.3 Vp-p
50 mV/20 µsec/DIV

WF17-1 CN7506-8



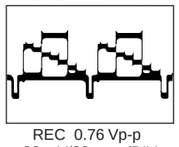
REC 1.7 Vp-p
50 mV/20 µsec/DIV

WF17-2 CN7506-8



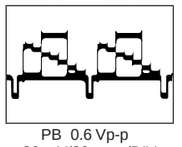
PB 1.7 Vp-p
50 mV/20 µsec/DIV

WF18-1 CN7506-6



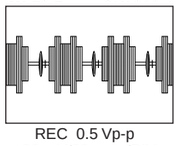
REC 0.76 Vp-p
20 mV/20 µsec/DIV

WF18-2 CN7506-6



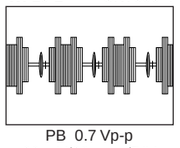
PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF19-1 CN7506-4



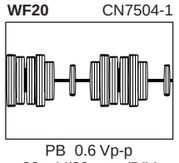
REC 0.5 Vp-p
20 mV/20 µsec/DIV

WF19-2 CN7506-4



PB 0.7 Vp-p
20 mV/20 µsec/DIV

WF20 CN7504-1

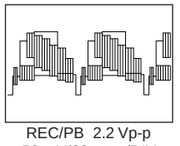


PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF21 CN7504-5

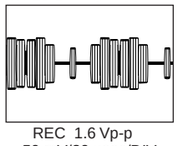
PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF22 CN7503-1



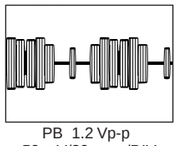
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF23-1 CN7504-11



REC 1.6 Vp-p
50 mV/20 µsec/DIV

WF23-2 CN7504-11

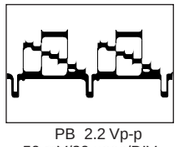


PB 1.2 Vp-p
50 mV/20 µsec/DIV

WF24-1 CN7504-9

REC 2 Vp-p
50 mV/20 µsec/DIV

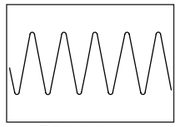
WF24-2 CN7504-9



PB 2.2 Vp-p
50 mV/20 µsec/DIV

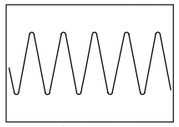
< AUDIO >

WF1 IC1-80



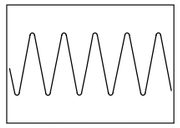
REC 0.2 Vp-p
5 mV/0.5 msec/DIV

WF2 IC1-62



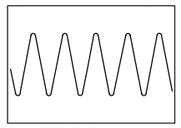
REC/PB 0.9 Vp-p
20 mV/0.5 msec/DIV

WF3 IC1-52



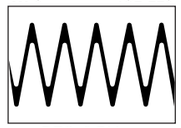
REC 0.11 Vp-p
2 mV/0.5 msec/DIV

WF4 IC1-48



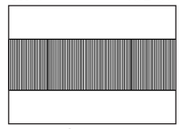
PB 0.58 Vp-p
10 mV/0.5 msec/DIV

WF5 IC1-119



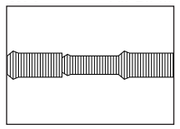
REC 0.7 Vp-p
20 mV/0.5 msec/DIV

WF6 IC1-97



REC 1.5 Vp-p
0.1 V/5 msec/DIV

WF7 TP2253 A.PB.FM



PB 0.5 Vp-p
50 mV/5 msec/DIV

4.30 VOLTAGE CHARTS

<SW REG.>

MODE PIN NO.	REC	PLAY
IC5201		
1	2.4	2.4
2	0	0
3	10.6	10.6
IC5321		
1	4.3	4.3
2	3.2	3.2
3	0	0
4	2.6	2.6
CN5001	-	-
CN5321		
1	19.8	20.0
2	11.7	11.7
3	0	0
4	0	0
5	0	0
6	-17.0	-17.0
7	-25.9	-25.9
8	-13.6	0
9	0	0
10	2.5	2.5
11	3.4	3.4
12	0	0
CN5322		
1	5.6	5.6
2	0.5	48.2
3	5.0	5.0
4	0.5	5.0
5	-7.2	-7.2
6	10.9	11.0
7	0	0
8	0	0
9	0	0
10	31.7	31.3
CN5323		
1	0	0
2	0	0
3	3.1	3.1
4	0	0
5	3.1	3.1
6	0	0
7	5.0	5.0
8	-7.2	-7.2
CN5324		
1	5.5	5.5
2	0	0
3	5.6	5.6
4	5.0	5.0
5	0	0
CN5325		
1	11.0	11.0
2	0	0

<MAIN>

MODE PIN NO.	REC	PLAY
IC1		
1	4.2	2.2
2	2.8	2.9
3	2.6	2.6
4	1.9	1.4
5	1.9	1.4
6	2.4	2.1
7	1.6	0.7
8	0	0
9	2.6	3
10	1.9	2
11	3.1	3.1
12	2.8	2.4
13	3.1	3.1
14	3.5	2.4
15	0	0
16	2.8	2.8
17	1.5	1.5
18	2.8	2.8
19	0	4.8
20	2.8	2.8
21	1.5	2
22	2.8	2.8
23	3.1	2.9
24	4.9	4.9
25	0.3	0.3
26	0	0
27	1.3	2.3
28	2.8	2.5
29	1.9	1.9
30	2.1	2.1
31	0	0
32	2.6	2.6
33	4.9	4.9
34	2.7	2.4
35	4.9	4.9
36	2.6	2.6
37	3.3	2.3
38	2.2	2.2
39	1.3	1.3
40	1.7	1.7
41	2.7	2.7
42	2.2	2.2
43	0	0
44	2.1	2.1
45	4.6	4.6
46	4.1	4.1
47	2.9	2.9
48	2.6	2.6
49	5	5
50	2.4	2.5
51	2.8	2.8
52	2.3	2.3
53	2.3	2.3
54	2.6	2.6
55	2.2	2.2
56	0.5	0.5
57	2.3	2.3
58	8.3	8.3
59	4.6	4.6
60	4.1	4.1
61	4.2	4.2
62	4.2	4.2
63	2.3	2.3
64	2.3	2.3
65	0.6	0.6
66	3.1	3.1
67	4.2	4.2
68	4.2	4.2
69	2.3	2.3
70	0	0
71	0.2	0.2
72	0.2	0.2
73	0.3	0.3
74	2.3	2.3
75	2.5	2.5
76	0	0
77	2.6	2.6
78	0.3	0.3
79	0.3	0.3
80	0.2	0.2
81	2.3	2.3
82	0	0.7
83	0	0
84	2.3	2.3
85	2.3	2.3
86	2.3	2.3
87	1.6	1.8
88	2.3	2.3
89	2.3	2.3
90	2.3	2.3
91	0.1	0
92	0	0
93	0	2.4
94	0	1.8
95	0	0
96	2.6	2.3
97	2.6	2.3
98	2.6	2.3
99	4.9	4.9
100	0	4.9

MODE PIN NO.	REC	PLAY
101	0	0
102	0	0
103	0	0
104	2.3	2.3
105	2.3	2.3
106	2.4	2.4
107	4.9	4.9
108	0	0
109	0	0
110	0	0
111	0	1.8
112	2.5	2.5
113	0.7	0.7
114	0	0
115	2.5	2.5
116	2.5	2.5
117	2.5	2.5
118	0	0
119	2.5	2.5
120	4.5	4.5
IC201		
1	0	0
2	2.5	2.5
3	4.8	4.8
4	0	0
5	4.4	4.4
6	2.4	2.4
7	2.5	2.5
8	4.9	4.9
9	0	3.2
10	4.3	4.3
11	4.4	3.8
12	4.9	4.9
13	2.9	2.9
14	2.9	2.9
15	0	0
16	1.2	1.2
17	0	0
18	4.9	4.9
19	1.6	1.6
20	0	0
21	1.6	1.5
22	0.4	0.2
23	4.9	4.9
24	2.9	2.9
25	2.5	2.5
26	4.9	4.9
27	4.5	4.5
28	0	3.5
29	4.9	4.9
30	4.9	4.9
IC601		
1	2.0	2.0
2	0.3	4.5
3	3.3	3.3
4	3.4	3.4
5	4.9	4.9
6	2.2	2.2
7	2.0	2.0
8	4.9	4.9
9	1.4	1.4
10	2.9	2.9
11	2.9	2.9
12	2.9	2.9
13	0	0
14	2.8	2.8
15	2.8	2.8
16	1.9	1.9
17	1.9	1.9
18	1.9	1.9
IC701		
1	4.0	4.0
2	2.1	2.1
3	5.0	5.0
4	0	2.3
5	0	2.1
6	2.9	2.9
IC702		
1	4.0	5.0
2	2.1	0
3	5.0	4.0
4	0	2.9
5	0	0
6	3.1	0
IC703		
1	4.0	4.0
2	2.1	2.1
3	5.0	0.7
4	2.8	2.8
5	0	0.8
6	2.9	2.9
IC704		
1	0	4.0
2	1.9	1.9
3	0	5.0
4	1.7	0
5	0	0
6	1.6	3.3
IC705		
1	1.7	1.7
2	0	0

MODE PIN NO.	REC	PLAY
3	1.6	1.6
4	0	0
5	1.6	1.6
6	4.9	4.9
7	1.0	1.0
8	0	0
IC706		
1	1.8	2.5
2	.0	2.4
3	2.0	1.9
4	0	0
5	0	-0.7
6	5.0	5.0
7	0	1.1
8	0	0
IC2601		
1	0	0
2	0	0
3	0	0
4	-6.0	-6.0
5	0	0
6	0	0
7	0	0
8	5.1	5.1
IC2602		
1	0.2	0.2
2	0	0
3	0.2	0.2
4	0	0
5	0	0
6	0	0
7	-4.9	-4.9
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	5.6	5.6
IC2603		
1	0	0
2	0	0
3	0	0
4	-6.0	-6.0
5	0	0
6	0	0
7	0	0
8	5.1	5.1
IC2604		
1	0.2	0.2
2	0	0
3	0.2	0.2
4	0	0
5	0	0
6	0	0
7	-4.9	-4.9
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	5.6	5.6
IC3001		
1	2.6	2.4
2	0	0
3	2.0	2.4
4	2.0	2.0
5	2.0	2.2
6	2.4	2.3
7	2.4	2.2

MODE PIN NO.	REC	PLAY
8	1.8	2.2
9	1.8	4.9
10	4.8	4.8
11	1.7	0.6
12	1.7	2.4
13	1.7	1.4
14	4.0	2.8
15	4.6	4.3
16	1.0	0
17	0	0
18	5.0	4.9
19	0	0
20	4.6	4.6
21	0	3.8
22	0	2.5
23	0.1	0
24	0	4.8
25	0	0
26	4.8	3.2
27	4.8	4.8
28	4.8	4.8
29	4.8	4.5
30	0	0
31	0.1	4.7
32	0	0
33	0	0
34	0	0
35	0	0
36	0	2.6
37	0.1	0.1
38	3.9	3.9
39	4.2	4.3
40	0	0
41	4.6	4.0
42	4.3	3.6
43	0	0
44	0	0
45	4.8	4.8
46	4.3	2.9
47	4.2	4.2
48	0	0
49	4.0	4.0
50	4.6	4.4
51	4.8	4.7
52	1.6	3.0
53	0	4.3
54	2.5	3.0
55	0	4.4
56	0	0
57	0	0
58	0.1	0
59	0.1	0
60	0	0
61	0	0
62	0	0
63	0	0
64	0	1.4
65	0	0.7
66	0	4.9
67	0	2.4
68	0	0
69	0	2.4
70	0	4.8
71	0	4.8
72	0	0.5
73	0	0
74	0	2.7
75	0.1	2.7
76	0	4.7
77	0	4.8
78	0	0.5
79	0.1	2.0
80	0	0
81	0.1	4.8
82	0.1	3.4
83	2.4	2.4
84	0	0
85	0	0
86	4.8	0
87	4.8	0
88	4.8	0
89	0.3	0
90	0	0
91	2.7	2.7
92	0	0
93	0	0
94	0	0
95	0	4.8
96	0	0
97	0	0
98	0.7	0
99	0	2.4
100	2.4	2.4
101	0	0
102	0	1.4
103	0	0
104	0	0
105	0	4.8
106	4.8	4.8
107	0	0
108	1.2	1.2

MODE PIN NO.	REC	PLAY
109	4.8	4.8
110	0	0
111	0	0
112	2.4	0
IC3002		
1	4.8	4.8
2	4.8	4.8
3	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.6	4.6
6	4.5	4.5
7	0	0
8	4.9	4.9
IC3004		
1	11.4	11.4
2	0.2	0.2
3	0	0
4	0.2	0.2
5	11.4	11.4
6	11.4	11.4
7	0	0
8	0	0
9	0	0
IC3601		
1	0	0
2	0	0
3	0	0
4	0	3.9
5	4.5	4.5
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	4.8	4.8
14	3.6	3.6
15	0	0
16	4.9	4.9
IC3651		
1	0	0
2	0	0
3	0	0
4	0	3.9
5	4.5	4.5
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	4.8	4.8
14	3.6	3.6
15	0	0
16	4.9	4.9
CN1		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	2.2
6	2.3	1.6
7	2.3	2.2
8	2.3	2.0
9	2.7	2.3
10	2.7	2.3
11	2.7	2.3
12	0	0
13	0	0
CN501		
1	2.4	2.4
2	0	0
3	2.2	2.2
4	5.0	5.0
5	2.1	2.1
6	0.1	4.0
7	3.2	3.3
8	0	0
9	2.8	2.8
10	0	0
11	4.6	4.6
12	4.0	4.0
13	0	0
14	3.6	3.6
15	0	0
16	4.9	4.9
17	2.4	2.4
CN701		
1	2.0	2.0
2	0	0
3	1.1	1.1
4	0	0
5	0.1	2.0
6	0	0
7	2.6	2.7

MODE PIN NO.	REC	PLAY
8	0	0
9	1.9	2.0
10	0	0
11	1.7	1.7
12	0	0
13	0	0
14	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.1	2.4
7	2.3	2.4
CN2002		
1	0	0
2	0	0
CN2601		
1	0	0
2	0	0
3	0.1	0
4	0	0
5	0	0.1
6	0	0
7	0	0
8	0	0
CN3001		
1	11.7	11.7
2	0	0
3	1.3	1.3
4	0	0.1
5	1.2	2.4
CN3002		
1	0.2	0
2	0	9.0
CN3003		
1	0	0
2	2.5	2.5
3	2.5	2.4
4	5.0	5.0
5	0	1.8
6	4.8	4.8
7	0.1	0.4
8	0	10.9
CN3004		
1	4.8	4.8
2	4.4	4.8
3	0	0
4	2.0	4.2
5	4.2	4.2
6	4.8	4.8
7	0	0
8	0	0
9	-17.0	-17.0
10	-13.6	-13.7
11	-25.8	-25.9
12	3.5	3.5
13	3.3	3.3
14	3.6	3.6
15	3.3	3.3
16	3.3	3.3
17	4.8	4.8
18	0	0
19	4.8	4.8
20	0	0
CN3014		
1	4.3	4.3
2	5.8	7.2
3	0	0
4	0	0
CN6701		
1	0	0
2	4.4	4.7
3	4.3	4.7
4	4.8	4.8
5	0	0
6	0	0
7	5.0	5.0
8	0	0
9	0	0
10	0	0
CN7501		
1	-0.1	0.1
2	0	0
3	-0.1	-0.1
4	-0.1	-0.1
5	-0.1	2.1
6	-0.1	0
7	-0.1	0.1
8	-0.1	0.1
9	0	0.1
CN7502		
1	3.5	2.4
2	0.1	4.0
3	2.7	2.8

MODE PIN NO.	REC	PLAY
4	0	0
5	0.1	0.1
6	0	0
7	-0.1	4.0
8	4.6	4.6
9	2.5	0.1
10	-0.1	0
CN7503		
1	2.3	2.4
2	0	0
3	0	0
4	1.9	0
5	0	0
6	0	0
7	0	0
8	2.9	2.9
9	0	0
10	2.3	2.2
11	0	0
12	2.4	2.3
CN7504		
1	2.7	2.7
2	0	0
3	0	0
4	2.4	0
5	0	0
6	4.8	4.8
7	0	0
8	0	0
9	2.3	2.3
10	0	0
CN7505		
1	9.1	9.0
2	0	0
3	0	0
4	0	4.7
5	10.5	10.5
6	10.9	11.0
7	4.4	4.7
8	4.5	4.7
CN7506		
1	2.8	2.8
2	2.8	2.8
3	0	0
4	2.8	2.6
5	0	0
6	3.2	3.2
7	0.1	0.2
8	0	0
CN7507		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
CN7508		
1	31.7	31.3
2	0	0
3	0	0
4	0	0
5	10.9	11.0
6	-7.2	-7.2
7	0.5	5.0
8	5.0	5.0
9	0.5	48.2
10	5.6	5.6
CN7509		
1	0	0
2	3.4	3.4
3	2.5	2.5
4	0	0
5	-13.6	0
6	-25.9	-25.9
7	-17.0	-17.0
8	0	0
9	0	0
10	0	0
11	11.7	11.7
12	19.8	20.0
CN7510		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0

MODE PIN NO.	REC	PLAY
9	0	0
10	0	0

<3D D/2M>

MODE PIN NO.	REC	PLAY
IC1401	-	-
CN1401		
1	2.4	2.4
2	0	0
3	2.2	2.2
4	5.0	5.0
5	2.1	2.1
6	0.1	4.0
7	3.2	3.3
8	0	0
9	2.8	2.8
10	0	0
11	4.6	4.6
12	4.0	4.0
13	0	0
14	0.7	0.7
15	2.5	2.5
16	0	0
17	2.4	2.4

<TERMINAL>

MODE PIN NO.	REC	PLAY
IC501	-	-
IC901	-	-
CN502		
1	2.8	2.8
2	2.8	2.8
3	0	0
4	2.8	2.6
5	0	0
6	3.2	3.2
7	0.1	0.2
8	2.1	2.1
9	0	0
10	2.2	2.3
11	0	0
12	3.4	3.5
13	0	0
14	3.1	3.1
15	0	0
CN503		
1	-0.1	0.1
2	0	0
3	-0.1	-0.1
4	-0.1	-0.1
5	-0.1	2.1
6	-0.1	0
7	-0.1	0.1
8	-0.1	0.1
9	0	0.1
CN504		
1	3.5	2.4
2	0.1	4.0
3	2.7	2.8
4	0	0
5	0.1	0.1
6	0	0
7	-0.1	4.0
8	4.6	4.6
9	2.5	0.1
10	-0.1	0
CN505		
1	2.3	2.4
2	0	0
3	0	0
4	1.9	0
5	0	0
6	0	0
7	0	0
8	2.9	2.9
9	0	0
10	2.3	2.2
11	0	0
12	2.4	2.3
CN506		
1	2.7	2.7
2	0	0
3	0	0
4	2.4	0
5	0	0
6	4.8	4.8
7	0	0
8	0	0
9	2.3	2.3
10	0	0
11	2.4	2.4
CN901		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
CN902		
1	9.1	9.0
2	0	0
3	0	0
4	0	4.7
5	10.5	10.5
6	10.9	11.0
7	4.4	4.7
8	4.5	4.7
9	0	0

<DEMOD>

MODE PIN NO.	REC	PLAY
IC6701		
1	4.3	4.3
2	1.5	1.5
3	1.5	1.5
4	0	0
5	2.0	2.0
6	1.9	1.9
7	0.2	0.2
8	0	0
9	0	0
10	3.6	3.6
11	3.6	3.6
12	4.5	4.5
13	4.5	4.5
14	2.2	2.2
15	2.1	2.1
16	0	0
17	0.3	0.3
18	0.3	0.3
19	4.5	4.5
20	0	0
21	0.3	0.3
22	4.7	4.7
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	2.4	2.4
31	2.4	2.4
32	0	0
33	4.7	4.7
34	3.8	3.8
35	0	0
36	2.4	2.4
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	2.5	2.5
43	2.4	2.4
44	0	0
CN6701		
1	0	0
2	4.4	4.7
3	4.3	4.7
4	4.8	4.8
5	0	0
6	0	0
7	5.0	5.0
8	0	0
9	0	0
10	0	0

<POWER SW>

MODE PIN NO.	REC	PLAY
FW7002		
1	4.8	4.8
2	0	0
3	4.8	4.8

<SW/DISPLAY>

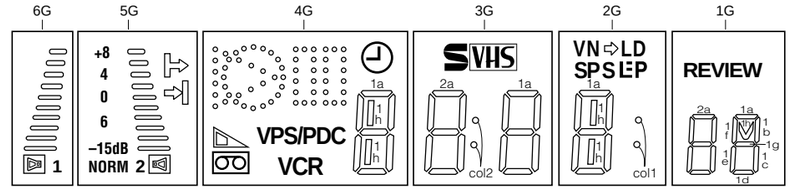
MODE PIN NO.	REC	PLAY
IC7001		
1	4.9	4.9
2	0	0
3	0	0
4	0	0
5	1.6	1.6
6	0	0
7	0	0
8	4.2	4.2
9	3.9	3.9
10	0	0
11	0	0
12	0	0
13	0	0
14	4.9	4.9
15	-8.3	-15.5
16	-13.3	-17.2
17	-13.3	-13.3
18	-21.1	-17.2
19	-13.3	-13.3
20	-13.3	-13.3
21	-18	-14
22	0	0
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
31	0	0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	0	0
44	2.7	2.7
IC7002		
1	5.0	5.0
2	5.0	5.0
3	0	0
CN7001		
1	4.8	4.8
2	4.3	4.3
3	4.8	4.8
4	2.0	1.0
5	4.2	4.2
6	4.8	4.8
7	0	0
8	0	0
9	-17.0	-17.0
10	-13.6	-13.7
11	-25.8	-25.9
12	3.5	3.5
13	3.3	3.3
14	3.6	3.6
15	3.3	3.3
16	3.3	3.3
17	4.8	4.8
18	0	0
19	4.8	4.8
20	0	0
CN7191		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
FW7001		
1	4.8	4.8
2	0	0
3	4.8	4.8
FW7003		
1	4.8	4.8
2	4.8	4.8
3	0	0
4	4.8	4.8

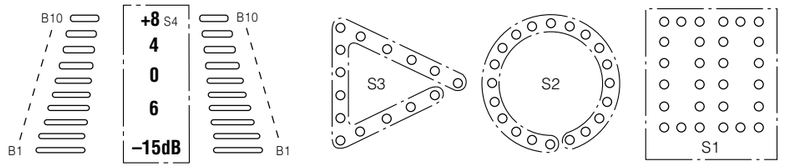
<DV MAIN>

MODE PIN NO.	REC	PLAY
IC1001	-	-
IC1002	-	-
IC1003	-	-
IC1004	-	-
IC1005		
1	3.1	3.1
2	3.1	3.1
3	0	0
4	0	0
IC1501	-	-
I

4.31 FDP GRID ASSIGNMENT AND ANODE CONNECTION

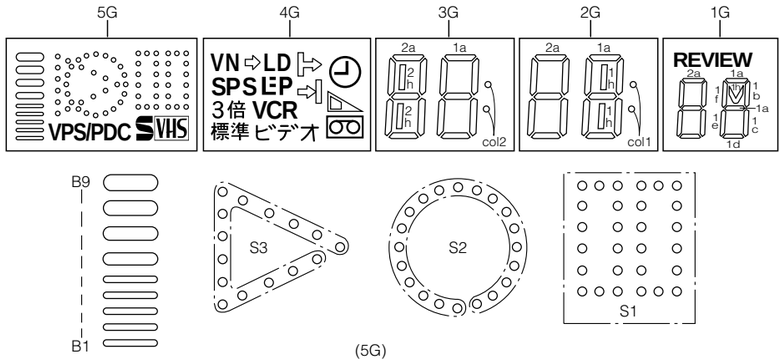
[A] (FDP with audio level indicator)





(6G, 5G) (4G)

[B] (FDP without audio level indicator)



(5G)

ANODE CONNECTION [A]

	6G	5G	4G	3G	2G	1G
P 1	—	⇨	S2	1a	1a	1a
P 2	—	⇨	S1	1b	1b	1b
P 3	—	S4	S3	1f	1f	1f
P 4	—	NORM	VPS/PDC	1g	1g	1g
P 5	1	2	◔	1c	1c	1c
P 6	▷	◁	◺	1e	1e	1e
P 7	B10	B10	▭	1d	1d	1d
P 8	B9	B9	VCR	col2	1h	1h
P 9	B8	B8	1a	2a	col1	2a
P10	B7	B7	1b	2b	⇨	2b
P11	B6	B6	1f	2f	VN	2f
P12	B5	B5	1g	2g	LD	2g
P13	B4	B4	1c	2c	SP	2c
P14	B3	B3	1e	2e	S (SEP)	2e
P15	B2	B2	1d	2d	= (SEP)	2d
P16	B1	B1	1h	SVHS	LP (SEP)	REVIEW

ANODE CONNECTION [B]

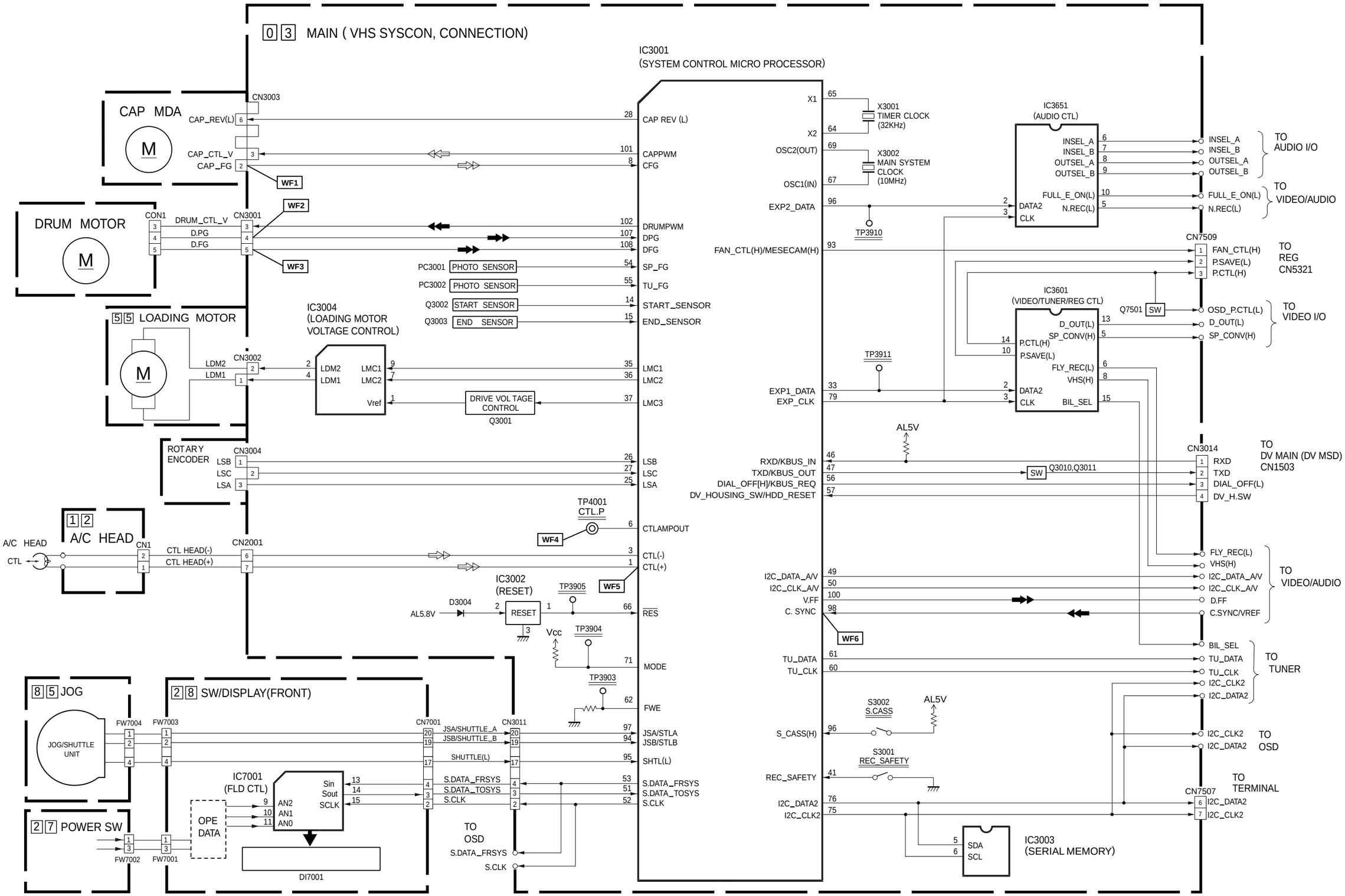
	5G	4G	3G	2G	1G
P 1	S2	⇨	1a	1a	1a
P 2	S1	⇨	1b	1b	1b
P 3	S3	3倍	1f	1f	1f
P 4	VPS/PDC	標準	1g	1g	1g
P 5	SVHS	◔	1c	1c	1c
P 6	—	◺	1e	1e	1e
P 7	—	▭	1d	1d	1d
P 8	B9	VCR	col2	1h	1h
P 9	B8	ビデオ	2a	2a	2a
P10	B7	⇨	2b	2b	2b
P11	B6	VN	2f	2f	2f
P12	B5	LD	2g	2g	2g
P13	B4	SP	2c	2c	2c
P14	B3	S (SEP)	2e	2e	2e
P15	B2	= (SEP)	2d	2d	2d
P16	B1	LP (SEP)	2h	col1	REVIEW

4.32 CPU PIN FUNCTION

<SYSCON IC3001>

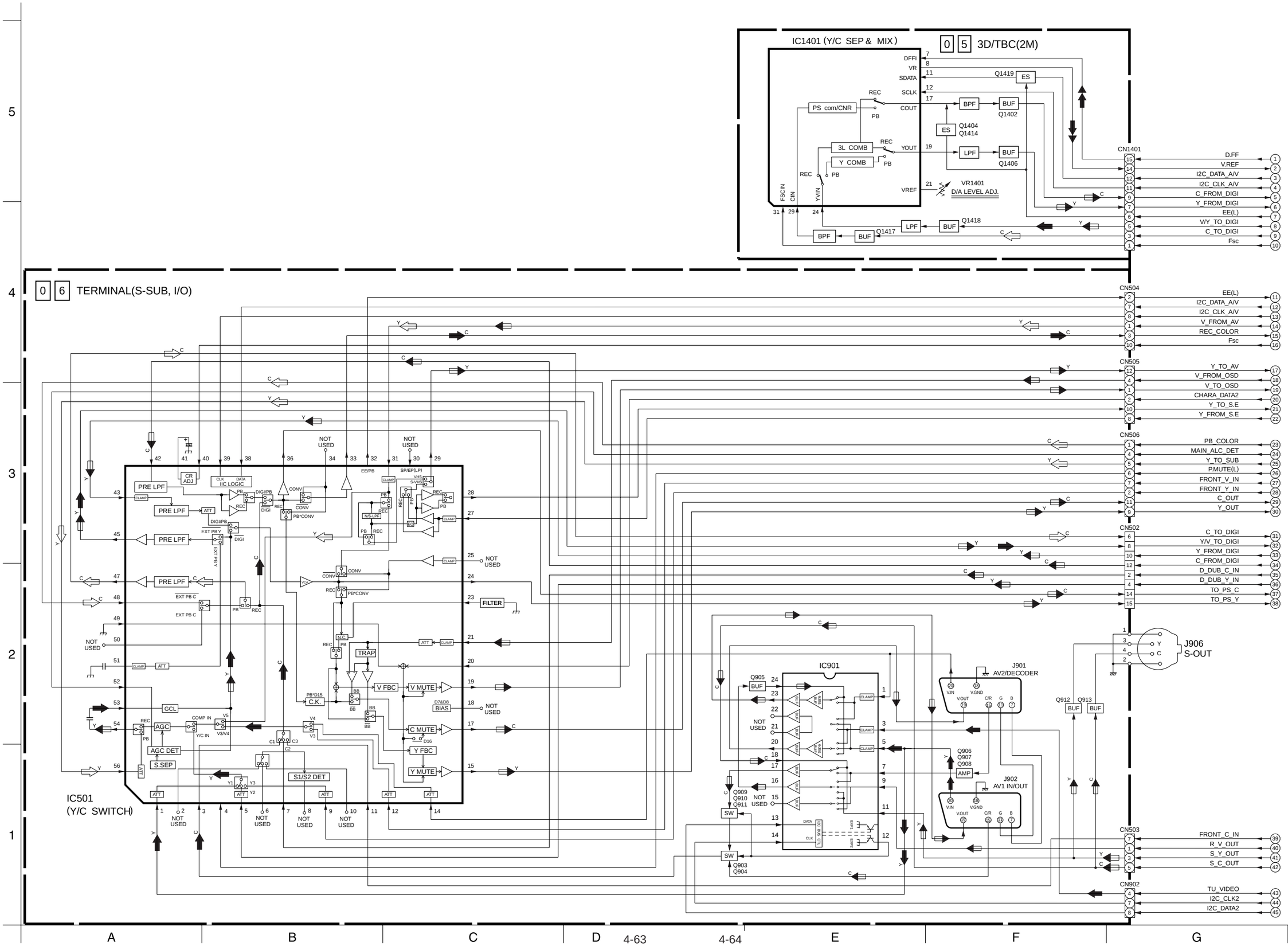
PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	SVHS MODE:H
12	SECAM_DET(H))	IN	NC/COLOR KILLER DETECT/NC
13	VIDEO_ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START_SENSOR	IN	START SENSOR
15	END_SENSOR	IN	END SENSOR
16	TU_SYNC(H)	-	NC
17	S_CASS(H)	IN	DETECTION SIGNAL FOR S VHS CASSETTE(S VHS:H)
18	SYNC_DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
19	SCR_ID(H)	IN	SCRAMBLECONTROL INPUT (SCRAMBLE:H)
20	BS_ANT/AFC	IN	NC/TUNING CLOCK
21	RF_AGC_LED	IN	CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITY WHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT.
22	A.ENV/IND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	CTL_GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP_REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	LOCK(L)	IN	TUNING PLL LOCK DETECT:L
31	P50_IN	IN	CONTROL SIGNAL FOR TV LINK
32	BS_REC_CTL	-	NC
33	EXP1_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR AUDIO/VIDEO CONTROL
34	P50_OUT/M_PULSE	OUT	CONTROL SIGNAL FOR TV LINK/NC
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	LMC2	OUT	LOADING MOTOR DRIVE(2)
37	LMC3	OUT	LOADING MOTOR DRIVE(3)
38	SB_GAIN	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	STB/TEST	OUT	STROBE SIGNAL (FOR FDP DRIVER)
40	POWER_DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	REC_SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	ANT_CTL(H)/RMO	OUT	NC/REMOTE CONTROL OUTPUT FOR SATELLITE RECEIVER
45	VCC	-	SYSTEM POWER
46	RXD/KBUS_IN	IN	RECIVED DATA/NC
47	TXD/KBUS_OUT	OUT	TRANSMITTE DATA/NC
48	KBUS_CLK	OUT	NC
49	I2C_DATA_A/V	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE VIDEO/AUDIO IC
50	I2C_CLK_A/V	OUT	SERIAL DATA TRANSFER CLOCK FOR THE VIDEO/AUDIO IC
51	S.DATA_TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
52	S.DATA_FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP_FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU_FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	DIAL_OFF(H)/KBUS_REQ	OUT	POWER OFF (L)/NC
57	DV_HOUSING_SW/HDD_RESET	IN	CASS. IN (L →H →L)/NC
58	N.REC_ST(H)	OUT	NORMAL AUDIO SOUND RECORDING START
59	JUST/EDS(H)/SECAM	IN	NC
60	TU_CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU_DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)	-	NC
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC	-	SYSTEM POWER
71	MODE	-	NC
72	TU_A_MUTE(H)	OUT	TUNER AUDIO MUTE CONTROL (MUTE:H)
73	TU_V_MUTE(H)	OUT	TUNER VIDEO CONTROL (MUTE:H)
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C_CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C_DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	VHS_DUB(H)	OUT	DUB MODE (H)
78	PAUSE	IN	PAUSE CONTROL
79	EXP_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR AUDIO/VIDEO AND TUNER/REG CONTROL
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK
81	EDS_CS/PAL.PB(H)	OUT	NC/PLAYBACK MODE FOR PAL:H
82	VCC	-	SYSTEM POWER
83	SLOW_PULSE	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE
84	VSS	-	GND
85	SP_SHORT(H)	OUT	MODE SELECT
86	LP_SHORT(H)	OUT	MODE SELECT
87	FLY_ON(H)	OUT	FLYING ERASE ON:H
88	H.REC_ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	TRICK(H)/M_TRICK(L)	OUT	SPECIAL PLAYBACK: H/REC AFC FILTER, PB APC FILTER, BURST ACC FILTER, COLOR KILLER DET FILTER
90	HEAD_SEL	OUT	HEAD SELECT (LP HEAD:H,SP HEAD:L)
91	OSD_CS	OUT	CHIP SELECT FOR THE ON-SCREEN IC
92	ET_PB(H)	IN	NC
93	FAN_CTL(H)/MESECAM(H)	OUT	FAN MOTOR CONTROL/MESECAM:H
94	JSB/STLB	IN	INPUT FOR THE JOG SHUTTLE
95	SHTL(L)/JOGA	IN	INPUT FOR THE JOG SHUTTLE
96	EXP2_DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR TUNER/REG CONTROL
97	JSA/STLA	IN	INPUT FOR THE JOG SHUTTLE
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF	OUT	AUDIO FF OUTPUT
100	V.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	SW1	OUT	TUNER SYSTEM MODE:H
104	SW2	OUT	TUNER SYSTEM MODE:L
105	SP(H)	-	NC
106	P.MUTE(L)	OUT	PICTURE CONTROL (MUTE:L)
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

4.33 SYSTEM CONTROL BLOCK DIAGRAM (VHS)



Note : For the waveforms in this block diagram, refer to page 4-55.

4.34 VIDEO BLOCK DIAGRAM (VHS)



0 3 MAIN(VIDEO, ON SCREEN, VIDEO I/O & SUB EMPHA, CONNECTION)

TO SYSCON: I2C_DATA_A/V, I2C_CLK_A/V, C.SYNC/V.REF, P.MUTE(L), V.PULSE, SP(H), D_OUT(L), P.CTL(H)

TO TUNER: TU_VIDEO

CN501: D.FF, V.REF, I2C_DATA_A/V, I2C_CLK_A/V, C_FROM_DIGI, Y_FROM_DIGI, EE(L), V/Y_TO_DIGI, C_TO_DIGI, Fsc

CN7502: EE(L), I2C_DATA_A/V, I2C_CLK_A/V, V_FROM_AV, REC_COLOR, Fsc

CN7503: Y_TO_AV, V_FROM_OSD, V_TO_OSD, CHARA_DATA2, Y_TO_S.E, Y_FROM_S.E

CN7504: PB_COLOR, MAIN_ALC_DET, Y_TO_SUB, P.MUTE(L), FRONT_V_IN, FRONT_Y_IN, C_OUT, Y_OUT

CN7506: C_TO_DIGI, Y/V_TO_DIGI, Y_FROM_DIGI, C_FROM_DIGI, D_DUB_C_IN, D_DUB_Y_IN, TO_PS_C, TO_PS_Y

TO DV MAIN (V OUT) CN3501

CN701: D_C_IN, D_Y/V_IN, D_C_OUT, D_Y_OUT, D_V_OUT, RF_Y_OUT, BLANK, CHARA

J7194 FRONT_S_IN — 2 8 SW/DISPLAY

CN7191: FRONT_Y_IN, FRONT_C_IN, FRONT_V_IN

CN7510: FRONT_Y_IN, FRONT_C_IN, FRONT_V_IN

J7191 FRONT VIDEO IN

CN7501: FRONT_C_IN, R_V_OUT, S_Y_OUT, S_C_OUT

CN7505: TU_VIDEO, I2C_CLK2, I2C_DATA2

IC701, IC702, IC703, IC704, IC705, IC706 — D_OUT(L), EE(L), NOT USED

Q701, Q702, Q703, Q704, Q705, Q706, Q707, Q708, Q709, Q715 — BUF

VR701 — D_Y/V

TP701 D_Y/V_IN

Q712 - Q714, Q717 - Q723 CHARA/FRAME SEP.

D_OUT(L), P.MUTE(L), OSD_P.CTL(L)

IC601 NON LINEAR PROCESSOR — EE(L), SP(H), REC, PB, SP, EQ

Q7501 SW — OSD_P.CTL(L)

VHS(H) Q6 ES; WF4 TP106 PB FM; Q5; WF3; WF1; Q21; WF2

Q10 BUF — Fsc; Q24 — 2Fsc; X1; WF5 TP111 D.FF

IC1 (VIDEO & AUDIO SIGNAL PROCESSOR)

TO SYSCON: D.FF, VIDEO_ENV, HEAD_SEL

U.DRUM — CN1 — VIDEO HEAD: SP CH2, SP CH1, EP(LP) CH2, EP(LP) CH1

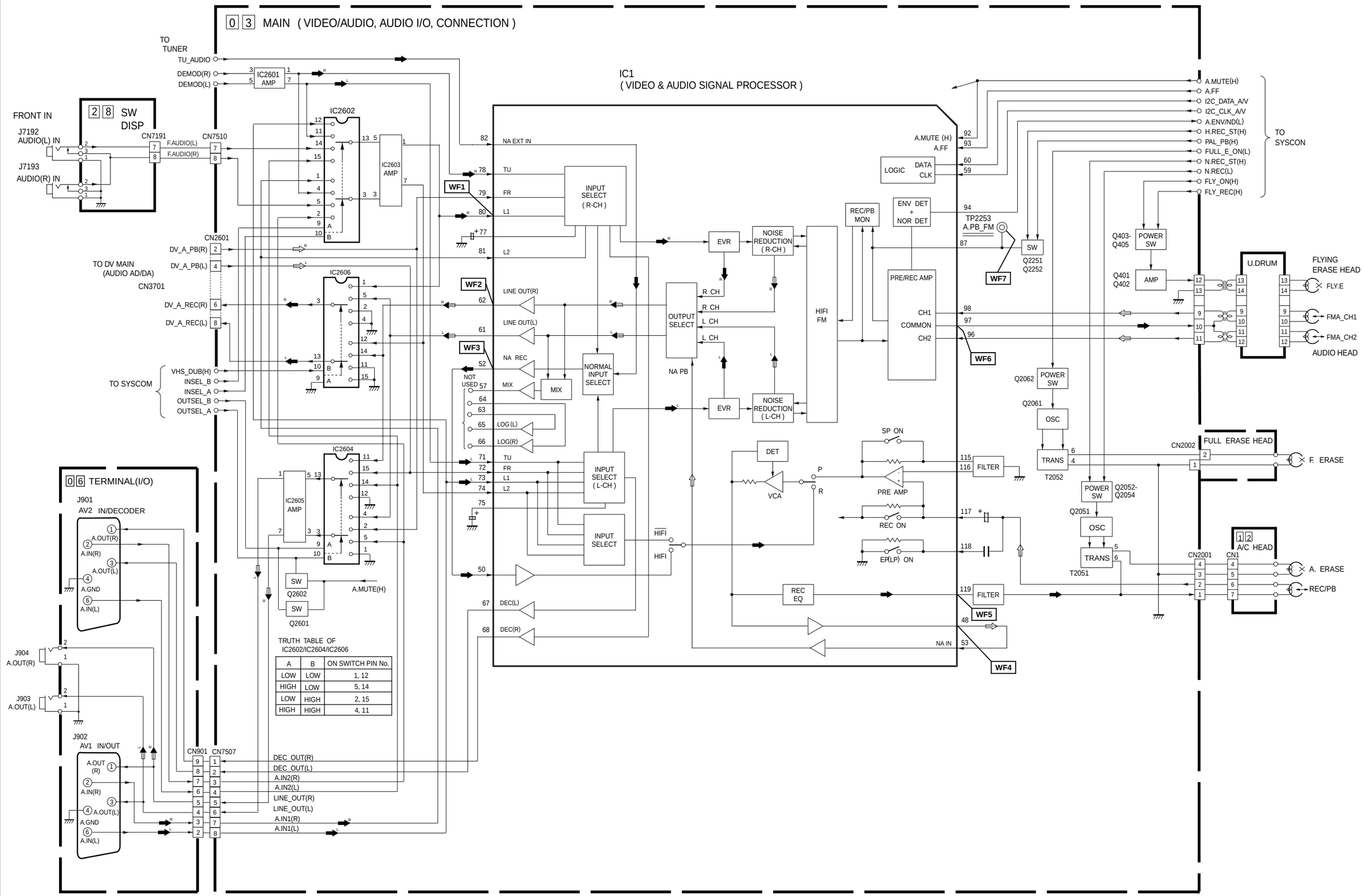
WF6; WF7; WF8; WF9; FILTER; Q17 SW

IC201 (ON SCREEN DISPLAY): CHABLK, SYNC_DET, MUTE, CS1, CV_IN, SCLK, CVOUT, SDATA, CS2, XTAL_IN, LN21; P. MUTE(L); 2Fsc; WF11; WF12

TO SYSCON: NORM/MESEC/S, VHS(H), SYNC_DET(H), OSD_CS, S.CLK, S.DATA_FRSYS, I2C_CLK2, I2C_DATA2

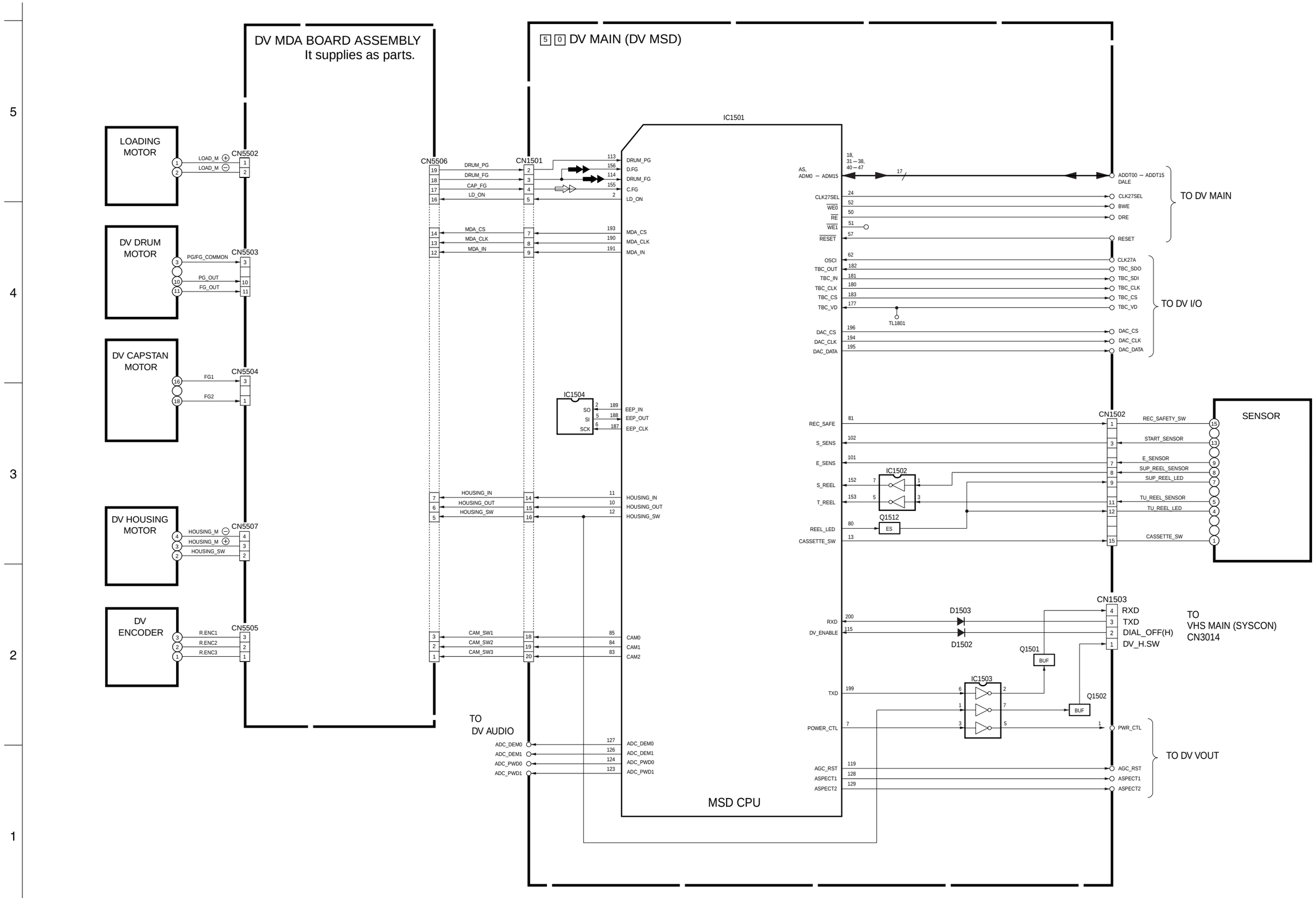
Note : For the waveforms in this block diagram, refer to page 4-55.

4.35 AUDIO BLOCK DIAGRAM (VHS)



Note : For the waveforms in this block diagram, refer to page 4-56.

4.36 SYSTEM CONTROL BLOCK DIAGRAM (DV)



4.37 VIDEO BLOCK DIAGRAM (DV)

5 0 DV MAIN (DV MAIN, DV I/O, DV V OUT, DV AUDIO,DV PRE/REC)

TO
DV MSD

DAC_CS
DAC_CLK
DAC_DATA
TBC_CLK
TBC_SDI
TBC_CS
TBC_RST
TBC_SDO
TBC_VD
CLK27A

IC3151
AD CONV.
15 LD
16 CLK
17 LI
Y_GCTL 6 A07
C_GCTL 7 A08
A05 4 DUMP_CTL
A06 5 AGC_GAIN
A02 19 ATF_GAIN
A01 18 RECCADJ
A03 2 M_VCOCTL
A04 3 FSPLLCTL

TO
VHS MAIN
(VIDEO I/O SW)
CN703

IC3501
VIDEO AMP
2 Y_GCTL
18 C_GCTL
CN3501
D_Y_OUT 8
D_C_OUT 10
ZP351-8
ZP351-10
CLAMP
LPF
ATT
BPF
ATT
1 DV_Y 7 YSOUT
19 DV_C 80 COUT
D_Y/V_IN 12 12 VYIN
D_C_IN 14 18 CIN

IC3001
49 - 51, 55 SDIN, SCLK, CS,RST
48, 58 SDOUT, CSYNC
CLK 54
CSO0 - CSO3 26 - 29
YSO0 - YSO3 32 - 35
CSI0 - CSI3 38 - 41
YSI0 - YSI3 42 - 45
DCO0 - DCO3 4 190,191 255, 256 BRSI0 - BRSI3
DYO0 - DYO3 4 116, 117 189, 254 YSI0 - YSI3
DCI0 - DCI3 4 41, 42 193, 194 BRSO0 - BRSO3
DYI0 - DYI3 4 120, 192 257, 258 YSO0 - YSO3
8 bit 2ch
AD/DA CONV.

VCO
IC3101
IC3102
X3101
(27MHz)

IC2001
CLK27I 38
AIDAT0 185
AIDAT1 112
AODAT0 248
M_VCOCTL
FSPLLCTL
OSC4185I 17
OSC4185O 241
X2001
(41.85MHz)
OSC24I 251
OSC24O 30
X2003
(24.576MHz)
ADVIN0 168
RECCLK 174
RECDATA 100
PHYTPA 82
PHYXTPA 226
PHYTPB 156
PHYXTPB 286

IC4001
REC/PB AMP
DUMP_CTL 2
AGC_GAIN 51
ATF_GAIN 60
RECCADJ 10
MUSIN_EVR
AGC_CTL
ATF_GAIN
REC_GAIN
AGC_BUFF_OUT 57
REC_CLK 9
REC_DATA 7
IC4002
X2 25
Y2 24
X1 20
Y1 19
CN4001
2S
2F
1S
1F
DV HEAD

TO
VHS MAIN
(AUDIO I/O)
CN2601

IC3701
16 bit
ADC & DAC
CN3701
DV_A_REC(L) 8
DV_A_REC(R) 6
DV_A_PB(L) 4
DV_A_PB(R) 2
AMP
IC3702
IC3703
AINL 6
AINR 3
AOUTL 19
AOUTR 20
A/D
D/A
SDTO 12
SDTI 15

J2001 DV IN/OUT

SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.

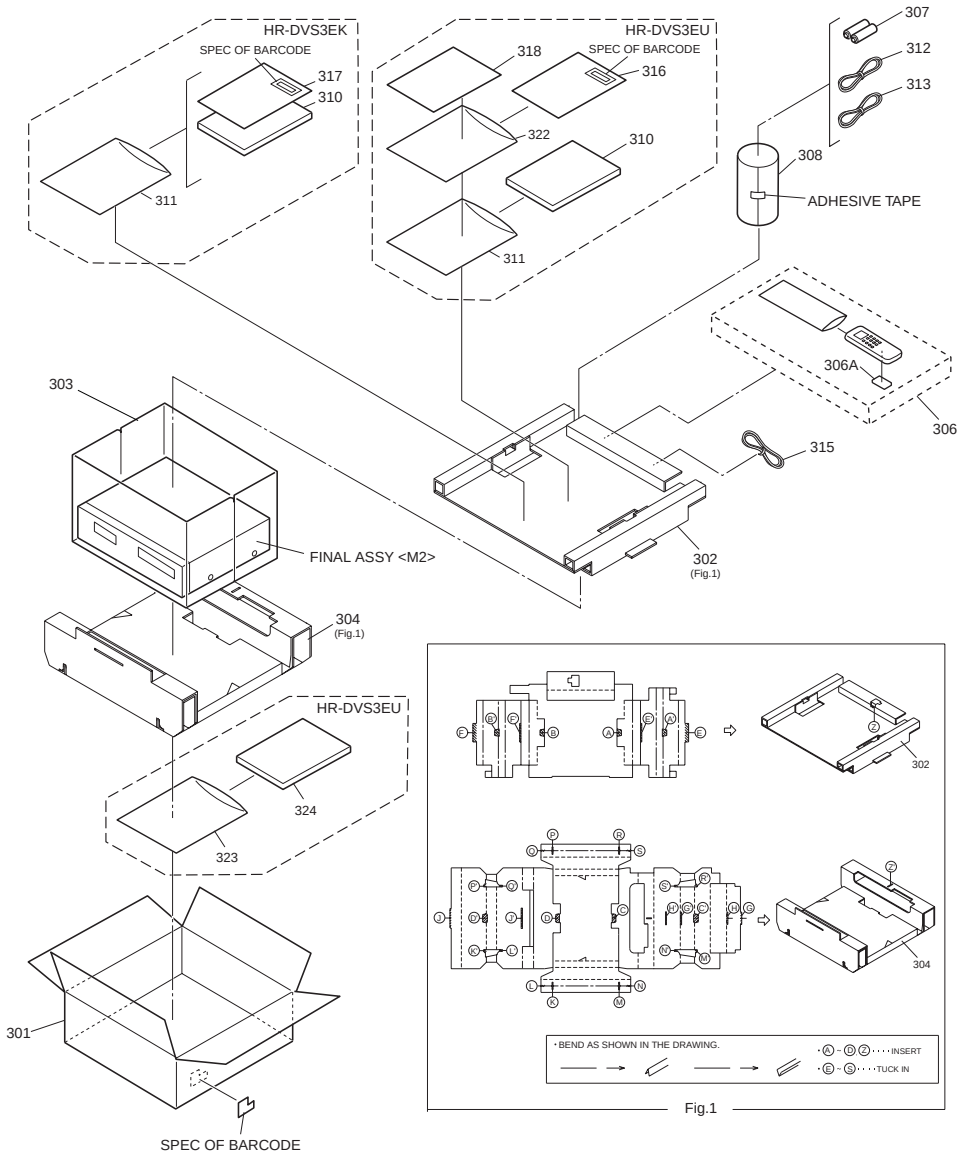


Fig.1

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
**********			

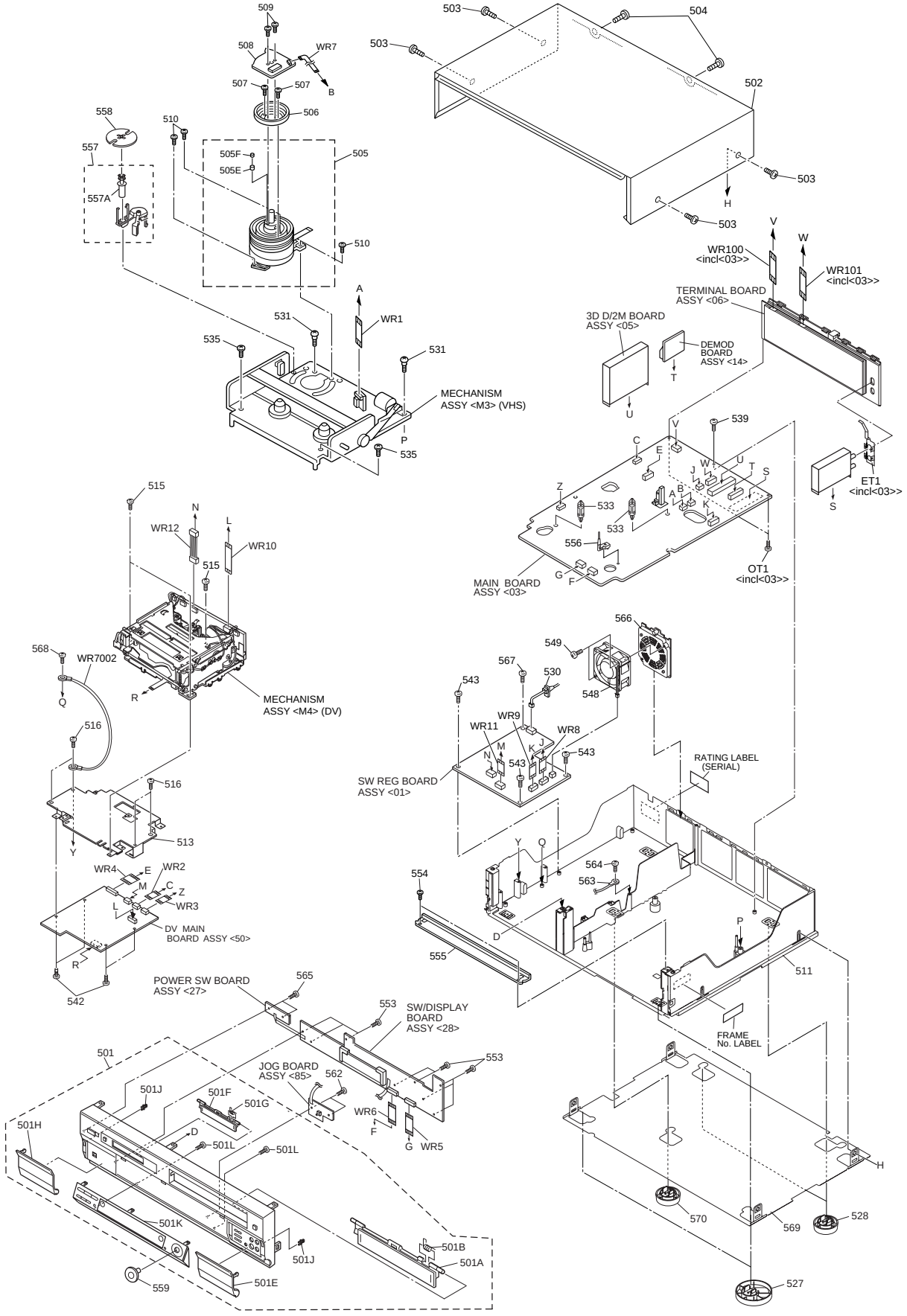
PACKING AND ACCESSORY ASSEMBLY <M1>

	REF No.	PART No.	PART NAME, DESCRIPTION
	301	LP31052-002A	PACKING CASE,DVS3EU
		LP31052-004A	PACKING CASE,DVS3EK
	302	LP31053-001B	CUSHION 1
	303	PQM30021-105	POLY BAG
	304	LP31054-001B	CUSHION 2
	306	LP20873-006A	REMOTE CONTROLLER
	306A	LP40254-006A	COVER(BATTERY)
	307	–	BATTERY,X2("R6"TYPE)
	308	QPC02202230P	POLY BAG
⚠	310	LPT0616-001B	INST.BOOK(EN),DVS3EU
⚠		LPT0616-002B	INST.BOOK(GE),DVS3EU
⚠		LPT0617-001A	INST.BOOK(EN),DVS3EK
	311	QPC02503530P	POLY BAG
	312	PEAC0300-02	RF CABLE
	313	QAL0095-005	LED CABLE ASSY
	315	QAM0238-002	PERI CABLE
	316	BT-54013-2	WARRANTY CARD,DVS3EU
	317	BT-54008-2	GUARANTY CARD,DVS3EK
	318	LP31118-001A	SHEET,DVS3EU
	322	QPC02503530P	POLY BAG,DVS3EU
	323	QPC02503530P	POLY BAG,DVS3EU
⚠	324	LPT0616-003A	INST.BOOK(FR),DVS3EU
⚠		LPT0616-004A	INST.BOOK(DU),DVS3EU
⚠		LPT0616-005A	INST.BOOK(SP),DVS3EU
⚠		LPT0616-006A	INST.BOOK(IT),DVS3EU
⚠		LPT0616-007A	INST.BOOK(SW),DVS3EU

5.2 FINAL ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

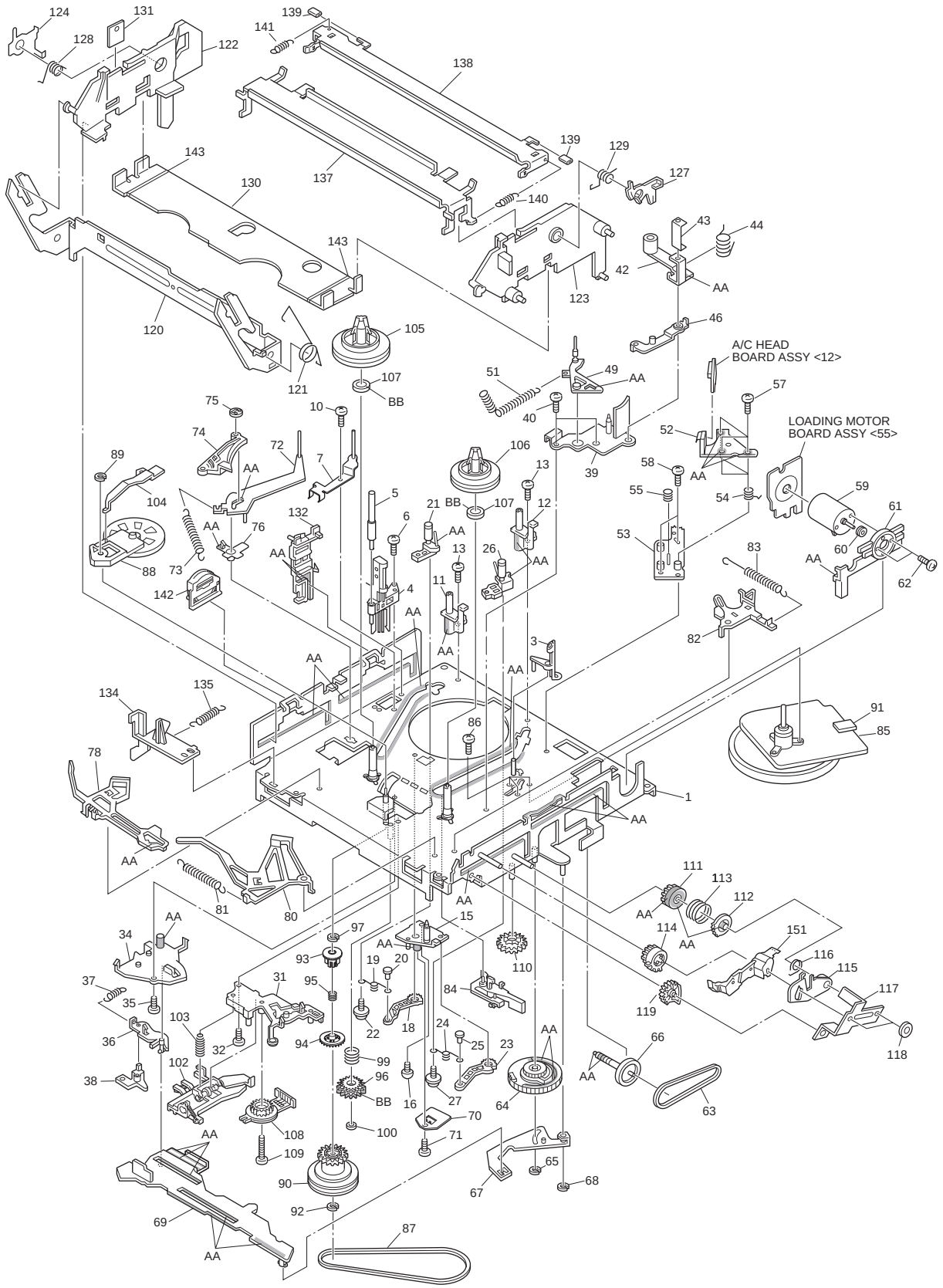
****

FINAL ASSEMBLY <M2>

	⚠	501	LP10409-001B	FRONT PANEL ASSY,DVS3EU
	⚠		LP10409-002B	FRONT PANEL ASSY,DVS3EK
		501A	LP21070-001A	CASSETTE DOOR(VHS)
		501B	PQ46448	TORSION SPRING
		501E	LP31048-001A	DOOR(R),DVS3EU
			LP31048-002A	DOOR(R),DVS3EK
		501F	LP30756-001A	CASETTE DOOR(DV)
		501G	LP40688-001A	SPRING(DV)
		501H	LP31047-001A	DOOR(L)
		501J	PU60109	CATCHER,X2
		501K	LP21071-001A	COVER
		501L	QYTDSF2608Z	SCREW,X2
	⚠	502	LP10411-002A	TOP COVER
		503	QYTDSF3010R	SCREW,X4,TOP COVER(SIDE)
		504	QYTDSF3010M	SCREW,X2,TOP COVER(REAR)
		505	LP20981-019A	DRUM SUB ASSY
		505E	LP40323-001A	CONTACT
		505F	LP30004-014A	COMPRESSION SPRING
		506	PDZ0179-1-4	ROTOR ASSY
		507	QYSPSP3006Z	SCREW,X2,ROTOR
	⚠	508	QAR0169-002	STATOR ASSY
		509	QYSPSPH2606Z	SCREW,X2,STATOR
		510	QYTDST2610Z	SCREW,X3,DRUM
	⚠	511	LP10412-001A	BOTTOM CHASSIS
		513	LP21073-001A	BASE(DV)
		515	QYTDST2606Z	SCREW,X3,DV MECHA
		516	QYTDSF3010Z	SCREW,X4,BASE(DV)
		527	PQ46617C	FOOT ASSY,X2
		528	PQ35504	FOOT(2),X2(REAR)
	⚠	530	QMP4A10-170	POWER CORD,DVS3EU
	⚠		QMP51K0-170-K	POWER CORD,DVS3EK
		531	QYTDSF4012Z	SCREW,X2,VHS MECHA
		533	LP40226-001A	PC SUPPORT,X2
		535	QYTDSF3010Z	SCREW,X2,VHS MECHA
		539	QYTDSF3010Z	SCREW,VHS MAIN
		542	QYTDST2606Z	SCREW,X4,DV MAIN
		543	QYTDSF3010Z	SCREW,X3,SW REG
		548	QAR0121-001	FAN MOTOR
		549	LP40918-001A	SCREW,X2,FAN MOTOR
		553	QYTDSF2608Z	SCREW,X8,SW/DISPLAY BOARD
		554	QYTDSF3010Z	SCREW,X2,BRACKET(CHASSIS)
		555	LP30312-001B	BRACKET(CHASSIS)
		556	LP40407-001A	KNOB ASSY
		557	LP40370-001E	ROLLER ARM ASSY
		557A	PDM4311A-1	ROLLER ASSY
		558	PQ45160	INERTIA PLATE
		559	LP31095-001A	KNOB ASSY
		562	QYTDSF2608Z	SCREW,X2,JOG BOARD
		563	PU49485-4	WIRE CLAMP
		564	QYTDSF3010Z	SCREW,WIRE CLAMP
		565	QYTDSF2608Z	SCREW,X2,POWER SW BOARD
		566	LP31072-001A	T.BOARD(FAN)
	⚠	567	QYTDSF3010Z	SCREW,SW REG
		568	QYTDSF3010Z	SCREW
	⚠	569	LP10413-001A	BOTTOM COVER
		570	PQ35504	FOOT(2)(CENTER)
		WR1	WJT0005-001A	E-CARD WIRE,AC HEAD,CN2001

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		WR2	QUQ210-0820CC	FFC WIRE,DV MAIN,CN2601
		WR3	QUQ212-0414CG	FFC WIRE,DV MAIN,CN3014
		WR4	QUQ112-1428CG	FFC WIRE,DV MAIN,CN701
		WR5	QUQ112-1008CG	FFC WIRE,FRONT,CN7510
		WR6	QUQ112-2008CG	FFC WIRE,FRONT,CN3011
		WR7	QUQ212-0516CG	FFC WIRE,DRUM,CN3001
		WR8	QUQ212-1028CG	FFC WIRE,SW REG,CN7508
		WR9	QUQ212-1238CG	FFC WIRE,SW REG,CN7509
		WR10	QUQ105-2008AA	FFC WIRE,DV MDA,CN1501
		WR11	QUQ212-0810CG	FFC WIRE,SW REG,CN1001
		WR12	QJA002-051600	SIN ID C-C WIRE,CN5501
		WR7002	QUB220-05XLXL	SIN TWIST WIRE

5.3 MECHANISM ASSEMBLY [VHS] <M3>



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

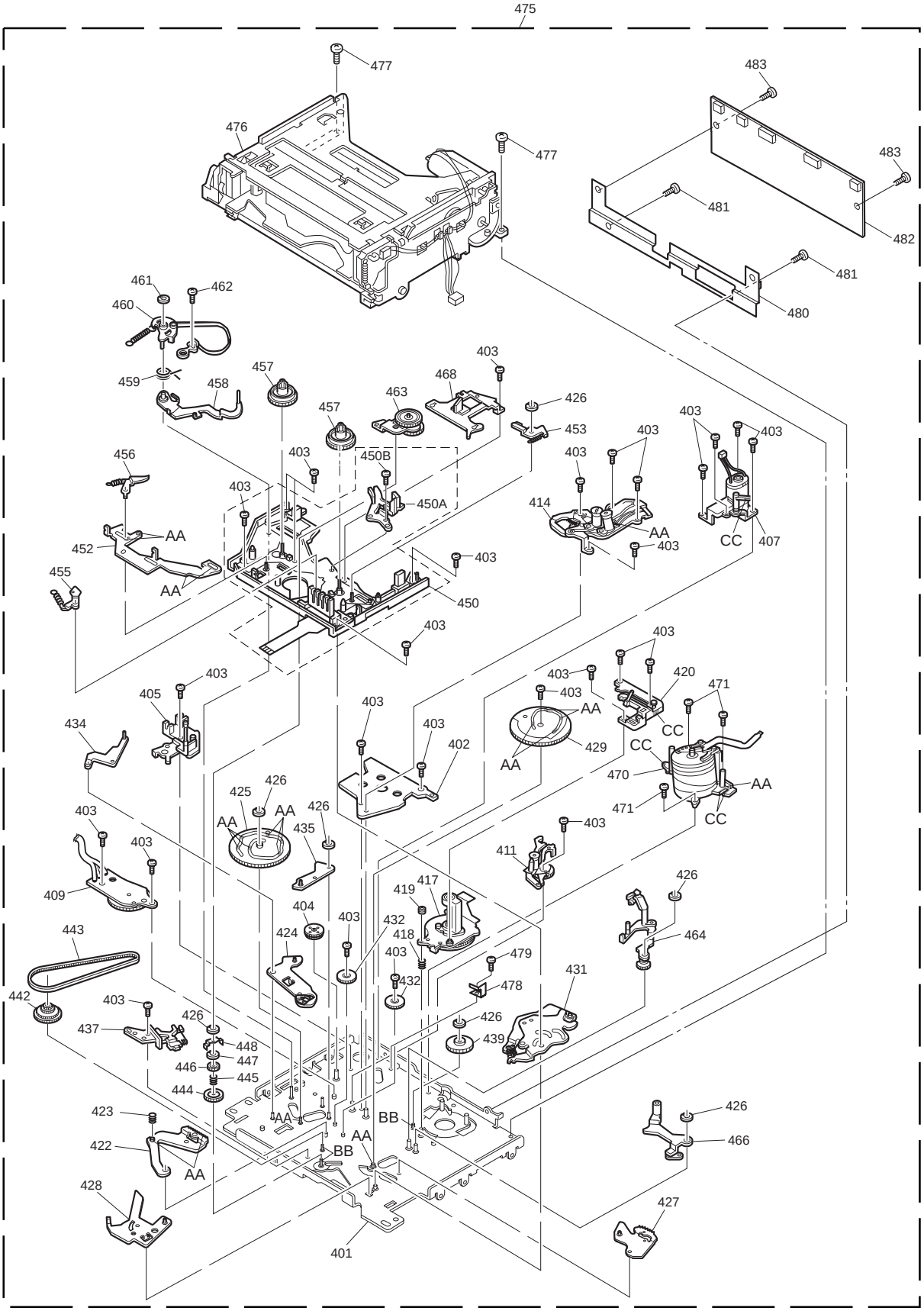
#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

MECHANISM ASSEMBLY(VHS) <M3>

		1	LP20821-009A	MAIN DECK ASSY
		3	LP30492-002B	GUIDE POLE GUARD
		4	NAH0001-001	FULL ERASE HEAD
		5	LP40701-001A	GUIDE POLE(SUPPLY)
		6	QYTDST2608Z	SCREW,FE HEAD
		7	LP40637-002A	TENSION STUD BASE ASSY
		10	QYTDST2606Z	SCREW
		11	LP30409-002C	UV CATCHER 2 (SUPPLY)
		12	LP30409-002C	UV CATCHER 2 (TAKE UP)
		13	QYTPST2606Z	SCREW,X2
		15	LP30223-003C	LOADING ARM GEAR SHAFT
		16	QYTDST2606Z	SCREW
		18	LP30224-001B	LOADING ARM GEAR(SUPPLY)
		19	LP40099-001A	TORSION ARM
		20	LP40100-001A	PIN
		21	LP40101-006A	POLE BASE ASSY(SUPPLY)
		22	QYSPSTG2606Z	SCREW
		23	LP40103-002B	LOADING ARM GEAR(TAKE UP)
		24	LP40099-001A	TORSION ARM
		25	LP40100-002A	PIN
		26	LP40104-006A	POLE BASE ASSY(TAKE UP)
		27	QYSPSTG2606Z	SCREW
		31	LP20233-004B	ROTARY ENCODER GUIDE
		32	QYTPST2606Z	SCREW
		34	LP30226-004E	CONTROL PLATE GUIDE
		35	QYTPST2605Z	SCREW
		36	LP30249-003B	TAKE UP LEVER
		37	LP30003-006A	TENSION SPRING
		38	LP40119-002A	TAKE UP HEAD
		39	LP20234-004B	LID GUIDE
		40	QYTDST2606Z	SCREW,X2
		42	LP40105-003A	PINCH ROLLER ARM ASSY
		43	LP40753-001A	PINCH ROLLER SHEET3
		44	LP40148-002A	TORSION SPRING
		46	LP40149-001C	PRESS LEVER ASSY
		49	LP40106-007A	GUIDE ARM ASSY
		51	LP40134-002A	TENSION SPRING
		52	QAH0058-001	AC HEAD
		53	LP30228-001C	HEAD BASE
		54	LP30004-013A	COMPRESSION SPRING,X3
		55	LP40236-001A	COMPRESSION SPRING
		57	LP40213-002B	SPECIAL SCREW,X3
		58	QYTDST2608Z	SCREW,X2
		59	QAR0023-001	LOADING MOTOR
		60	PQ43546-1-2	MOTOR PULLEY
		61	LP30230-003D	MOTOR GUIDE
		62	QYTPSP3003Z	SCREW,X2
		63	LP30005-003A	BELT,LOADING MOTOR
		64	LP20791-002D	CONTROL CAM
		65	PQM30017-24	SLIT WASHER
		66	LP40120-001A	WORM GEAR
		67	LP40107-002A	LINK LEVER ASSY
		68	PQM30017-24	SLIT WASHER
		69	LP10201-003G	CONTROL PLATE
		70	LP40379-001B	CONTROL BRACKET(1)
		71	QYTDSF2608M	SCREW
		72	LP40108-002A	TENSION ARM ASSY
		73	LP30003-010A	TENSION SPRING
		74	LP40109-003D	TENSION BRAKE ASSY
		75	PQ46302-1-3	ADJUST PIN
		76	LP30232-002A	TENSION ARM BEARING
		78	LP40532-008B	MAIN BRAKE ASSY (SUPPLY)
		80	LP40111-011A	MAIN BRAKE ASSY (TAKE UP)
		81	LP30003-026A	TENSION SPRING
		82	LP40112-001F	SUB BRAKE ASSY(TAKE UP)
		83	LP40357-002A	TENSION SPRING
		84	LP40461-001A	CAPSTAN BRAKE ASSY
		85	QAR0087-005	CAPSTAN MOTOR
		86	QYTDSF2606M	SCREW,X3
		87	LP30005-007A	BELT,CAPSTAN MOTOR
		88	LP40114-011B	IDLER ARM ASSY
		89	LP30016-001A	SLIT WASHER
		90	LP40593-003C	CLUTCH UNIT 3
		91	LP30002-097A	SPACER,CAPSTAN MOTOR
		92	PQM30017-47	SLIT WASHER
		93	LP30696-002A	CLUTCH GEAR 4
		94	LP30697-003A	COUPLING GEAR
		95	LP40554-002A	COMPRESSION SPRING
		96	LP40442-001A	DIRECT GEAR
		97	LP30017-019A	SPACER,C.GEAR4
		99	LP40483-002A	COMPRESSION SPRING
		100	LP30016-001A	SLIT WASHER,DIRECT GEAR
		101	LP30016-001A	SLIT WASHER,REEL DISK(SUPPLY)
		102	LP40484-001J	CHANGE LEVER ASSY
		103	LP40512-002B	COMPRESSION SPRING
		104	LP30236-002C	IDLER LEVER
		105	LP20237-004A	REEL DISK (SUPPLY)
		106	LP20238-004A	REEL DISK (TAKE UP)
		107	LP30017-022A	SPACER,X2
		108	QSW0554-003	ROTARY ENCODER
		109	QYTPST2620Z	SCREW
		110	LP30237-002B	CASSETTE GEAR
		111	LP30239-002G	LIMIT GEAR(1)
		112	LP30240-002G	LIMIT GEAR(2)
		113	LP40136-001E	TORSION SPRING
		114	LP30242-002B	RELAY GEAR
		115	LP30339-002F	OPENER GUIDE
		116	LP40545-001A	TORSION SPRING
		117	LP40214-001B	C.H.BRACKET
		118	PQM30017-47	SLIT WASHER,X2
		119	LP30243-002A	DRIVE GEAR
		120	LP20240-001G	DRIVE ARM
		121	LP40137-001A	TORSION SPRING
		122	LP10081-002P	SIDE HOLDER(L)
		123	LP10082-002V	SIDE HOLDER(R)
		124	LP30255-006B	LOCK LEVER(L)
		127	LP30256-001H	LOCK LEVER(R)
		128	LP40168-003A	TORSION SPRING(L)
		129	LP40218-001B	TORSION SPRING(R)
		130	LP30257-001G	CASSETTE HOLDER
		131	PQ40919-30	SPACER,EARTH PLATE
		132	LP30244-002G	GUIDE RAIL
		134	LP30245-002F	REC SAFETY LEVER
		135	LP30003-004A	TENSION SPRING
		137	LP20578-001C	TOP GUIDE
		138	LP30500-001C	HOLD PLATE
		139	LP40450-003A	PAD,X2
		140	LP30003-025B	TENSION SPRING
		141	LP30003-024A	TENSION SPRING
		142	LP40481-003A	ROLLER CAM ASSY
		143	LP30019-014A	PAD,X2
		152	LP20324-003B	DOOR OPENER

5.3 MECHANISM ASSEMBLY [DV] <M4>



Classifi-cation	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

MECHANISM ASSEMBLY(DV) <M4>

		401	PRD10428A	MAIN DECK ASSY
		402	LY30358-001A	DRUM BASE DECK
		403	YQ43893	MINI SCREW,X27
		404	LY30343-001A	WORM WHEEL 2
		405	LY40237-001C	ENT.GUIDE BASE ASSY
		407	LY30340-004A	MOTOR BRACKET ASSY
		409	LY41190-003A	ROTARY ENCODER ASSY
		411	YQ31873B-31	GUIDE RAIL ASSY(SUPPLY)
		414	LY20097-001C	GUIDE RAIL ASSY(TAKE UP)
		417	QAR0012-002	CAPSTAN MOTOR
		418	LY30002-003A	COMPRESSION SPRING
		419	LY41390-001A	ADJUST NUT
		420	LY30345-001A	MIDDELE CATCHER ASSY
		422	LY40223-001A	ARM GEAR 1 ASSY
		423	LY40224-001A	COLLAR
		424	LY40235-002B	CENTERRING ARM ASSY
		425	LY10060-003A	MAIN CAM
		426	YQ44246	SLIT WASHER,X7
		427	LY40279-001A	ARM GEAR 2 ASSY
		428	LY40228-001A	CLUCH LOCK LEVER ASSY
		429	LY20102-001A	SUB CAM
		431	LY30347-001A	CHARGE ARM ASSY
		432	YQ44560-1-2	CONNECT GEAR 2,X2
		434	LY40236-001A	TENSION CONTROL ARM ASSY
		435	LY40233-001A	BRAKE CONTROL ARM ASSY
		437	LY40242-001C	BASE PLATE ASSY
		439	YQ43931A	REEL DRIVE PULLEY ASSY
		442	LY40239-003A	CENTER GEAR ASSY
		443	LY40241-001A	TIMING BELT
		444	LY40246-001A	CLUTCH LOCK GEAR (1)
		445	LY30002-009A	COMPRESSION SPRING
		446	LY40247-001A	CLUTCH LOCK GEAR (2)
		447	YQ43933-2	WASHER
		448	LY40248-001A	PUSH PLATE
		450	PRD31443B	SUB DECK ASSY(G)
		450A	LY20108-001B	PRISM
		450B	YQ43893	MINI SCREW
		452	LY20109-001B	CONTROL PLATE
		453	LY40257-001A	SUB BRAKE ASSY
		455	LY40259-001A	MAIN BRAKE ASSY(TAKE UP)
		456	LY40260-003A	MAIN BRAKE ASSY(SUPPLY)
		457	LY40255-003A	REEL DISK ASSY,X2
		458	LY41245-001B	TENSION ARM SUB ASSY
		459	LY41243-001A	TORSION SPRING
		460	LY41246-003B	BAND ARM PLATE SUB ASSY
		461	PRD45316	SLIT WASHER
		462	YQ43893-7	MINI SCREW
		463	LY30370-002C	SWING ARM ASSY
		464	LY30380-001E	EXIT GUIDE ARM ASSY
		466	LY30374-001B	PINCH ROLLER ARM ASSY
		468	LY40280-003A	REEL COVER ASSY
		470	YDV2100A	DRUM ASSY
		471	YQ43893	MINI SCREW,X3
		475	LL30228-1A-H	DV MECHA UNIT
		476	LY30428-005A	CASSETTE HOUSING ASSY
		477	QYTDSP2004Z	SCREW,X2
		478	PRD45370	ASSIST GUIDE
		479	YQ43893	MINI SCREW
		480	LL30210-001A-H	BRACKET(MDA)
		481	QYSDSP2002N	SCREW,X2
		482	LK2119A0A-H2	DV MDA BOARD ASSY
		483	QYSDST2605Z	SCREW,X2

5.4 ELECTRICAL PARTS LIST

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
**********				

SW REGULATOR BOARD ASSEMBLY <01>

		PW1	LPA10153-01B SW REG BOARD ASSY
		IC5201	L5431 IC
			or MM1431AT IC
			or UTCTL431 IC
		IC5321	PQ15RW11 IC
		Q5101	2SK2632-CB14 POWER MOS FET
			or 2SK2632 POWER MOS FET
			or 2SK2129 POWER MOS FET
			or 2SK2129-LT POWER MOS FET
		Q5102	2SD2144S/UV/-T TRANSISTOR
		Q5321	2SC5739/QP/ TRANSISTOR
		Q5322	2SD1819A/RS/-X TRANSISTOR
			or 2PC4081/R/-X TRANSISTOR
			or 2SC4081/RS/-X TRANSISTOR
		Q5323	2SA933AS/RS/-T TRANSISTOR
			or 2SA1267/YG/-T TRANSISTOR
		Q5324	DTC114EU TRANSISTOR
			or PDTC114EU TRANSISTOR
			or RN1302 TRANSISTOR
			or UN5211 TRANSISTOR
		Q5326	2SD1858/QR/-T TRANSISTOR
		Q5327	2SD1819A/RS/-X TRANSISTOR
			or 2PC4081/R/-X TRANSISTOR
			or 2SC4081/RS/-X TRANSISTOR
		Q5328	2SD1302/ST/-T TRANSISTOR
			or 2SD1450/ST/-T TRANSISTOR
		Q5329	DTA114EU TRANSISTOR
			or PDTA114EU TRANSISTOR
			or UN5111 TRANSISTOR
			or RN2302 TRANSISTOR
		Q5331	2SB1068/KU/-T TRANSISTOR
		Q5332	DTC114EU TRANSISTOR
			or PDTC114EU TRANSISTOR
			or UN5211 TRANSISTOR
			or RN1302 TRANSISTOR
		Q5335	2SA1576A/RS/-X TRANSISTOR
		Q5339	2SD2144S/UV/-T TRANSISTOR
		Q5340	DTA114EU TRANSISTOR
			or PDTA114EU TRANSISTOR
			or RN2302 TRANSISTOR
			or UN5111 TRANSISTOR
		Q5341	DTC114EU TRANSISTOR
			or RN1302 TRANSISTOR
			or UN5211 TRANSISTOR
			or PDTC114EU TRANSISTOR
		D5002	S1WB/A/60-4102 BRIDGE DIODE
			or S1WB/A/60-X BRIDGE DIODE
			or S1WB(A)60F4072X BRIDGE DIODE
		D5101	AU01 DIODE
			or ERA18-04-T2 FR DIODE
			or 1SR153-400-T2 FR DIODE
			or 10ELS4 FR DIODE
		D5102	AU01Z FR DIODE
			or ERA18-02-T2 FR DIODE
			or 1SR153-400-T2 FR DIODE
			or 10ELS2 FR DIODE
		D5103	1SS133 DIODE
			or 1SS270A DIODE
		D5105	1SS133 DIODE
			or 1SS270A DIODE
		D5201	AU01Z FR DIODE
			or 10ELS2 FR DIODE
		D5202	MTZJ15C ZENER DIODE
			or RD15ES/B3/-T2 ZENER DIODE
		D5203	FMB-24 SB DIODE
			or FSQ05A04B SB DIODE
			or SB640FCT SB DIODE
			or SF5SC4 SB DIODE
			or YG801C04 SB DIODE
		D5205	10ELS2 FR DIODE
			or AU01Z FR DIODE
		D5206	10ELS2 FR DIODE
			or AU01Z FR DIODE
		D5208	ERA18-02-T2 FR DIODE
			or PG104RS FR DIODE
			or 10ELS2 FR DIODE
			or 1SR153-400-T2 FR DIODE
		D5209	AU01Z FR DIODE
			or ERA18-02-T2 FR DIODE
			or PG104RS FR DIODE
			or 1SR153-400-T2 FR DIODE
			or 10ELS2 FR DIODE
		D5210	AU01Z FR DIODE
			or ERA18-02-T2 FR DIODE
			or PG104RS FR DIODE
			or 1SR153-400-T2 FR DIODE
			or 10ELS2 FR DIODE
		D5212	1SS133 DIODE
			or 1SS270A DIODE
		D5213	MTZJ27C ZENER DIODE
			or RD27ES/B3/-T2 ZENER DIODE
		D5214	MTZJ7.5A ZENER DIODE
			or RD7.5ES/B1/-T2 ZENER DIODE
		D5323	11ES2 DIODE
			or 1A3G DIODE
			or ERA15-02-T2 DIODE
		D5325	RD5.1JS/B2/-T2 ZENER DIODE
			or MA4051N/M/-T2 ZENER DIODE
		D5326	1SS133 DIODE
			or 1SS270A DIODE
		D5327	RD5.1JS/B2/-T2 ZENER DIODE
			or MA4051N/M/-T2 ZENER DIODE
		D5328	1SS133 DIODE
			or 1SS270A DIODE
		D5337	11ES2 DIODE
			or 1A3G DIODE
			or ERA15-02-T2 DIODE
		D5338	11ES2 DIODE
			or ERA15-02-T2 DIODE
			or 1A3G DIODE
		D5339	1SS133 DIODE
			or 1SS270A DIODE
		D5340	1SS133 DIODE
			or 1SS270A DIODE
		R5101	QRE141J-224Y RESISTOR 220kΩ,1/4W
		R5102	QRE141J-224Y RESISTOR 220kΩ,1/4W
		R5103	QRE141J-683Y RESISTOR 68kΩ,1/4W
		R5104	QRG02GJ-683 OMF RESISTOR 68kΩ,2W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R5106	QRT01DJ-R39X	MF RESISTOR	0.39Ω,1W
		R5107	QRE121J-331Y	RESISTOR	330Ω,1/2W
		R5108	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R5109	QRE141J-681Y	RESISTOR	680Ω,1/4W
		R5110	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R5111	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R5112	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5201	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5203	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5204	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R5205	NRVA02D-123X	CMF RESISTOR	12kΩ,1/10W
		R5206	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R5207	QRE141J-3R3Y	RESISTOR	3.3Ω,1/4W
	⚠	R5208	QRZ9005-221X	FUSI RESISTOR	220Ω,1/4W
		R5209	QRE121J-331Y	RESISTOR	330Ω,1/2W
		R5210	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5211	QRE121J-331Y	RESISTOR	330Ω,1/2W
		R5212	QRE121J-331Y	RESISTOR	330Ω,1/2W
		R5213	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R5321	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R5322	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5323	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5324	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5325	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5326	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5327	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5328	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5329	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5330	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5331	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5332	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5333	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5336	NRVA02D-472X	CMF RESISTOR	4.7kΩ,1/10W
		R5337	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R5338	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5340	QRL01DJ-820X	OMF RESISTOR	82Ω,1W
		R5341	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5342	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R5343	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5344	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5348	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R5349	QRE141J-273Y	RESISTOR	27kΩ,1/4W
		B5302	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	⚠	C5001	QFZ9073-683	F CAPACITOR	0.068μF,250V
	⚠	C5002	QFZ9051-333	F CAPACITOR	0.033μF,250V
	⚠	C5004	QCZ9071-222	CAPACITOR	0.0022μF,250V
		C5006	QEZ0374-826	E CAPACITOR	82μF,400V
		C5101	QCZ0212-472	CAPACITOR	0.0047μF,1kV
		C5102	QCZ0302-330Z	CAPACITOR	33pF,1kV
		C5104	QETN1HM-105	E CAPACITOR	1μF,50V
		C5105	QFN31HJ-183	F CAPACITOR	0.018μF,50V
		C5106	QCBB1HJ-271	CAPACITOR	270pF,50V
		C5107	QFV91HJ-104	F CAPACITOR	0.1μF,50V
		C5201	QFV91HJ-154	F CAPACITOR	0.15μF,50V
		C5202	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C5203	QEMU0JM-227	E CAPACITOR	220μF,6.3V
		C5204	QEMT1AM-278	E CAPACITOR	2700μF,10V
		C5205	QEMT1CM-827	E CAPACITOR	820μF,16V
		C5206	QEMU1EM-187	E CAPACITOR	180μF,25V
		C5207	QETN2AM-475	E CAPACITOR	4.7μF,100V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C5208	QEMU1HM-186	E CAPACITOR	18μF,50V
		C5209	QETN1AM-107	E CAPACITOR	100μF,10V
		C5210	QETN1CM-107	E CAPACITOR	100μF,16V
		C5211	QETN1AM-107	E CAPACITOR	100μF,10V
		C5321	QETN1AM-107	E CAPACITOR	100μF,10V
		C5322	QETN1HM-225	E CAPACITOR	2.2μF,50V
		C5323	QETN1CM-107	E CAPACITOR	100μF,16V
		C5324	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C5325	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C5326	QETN1AM-107	E CAPACITOR	100μF,10V
		C5329	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C5330	QETN1AM-107	E CAPACITOR	100μF,10V
		C5331	QETN1AM-107	E CAPACITOR	100μF,10V
		L5201	PELN1184	COIL	33μH
		L5202	QQR1169-001	COIL	
		L5203	PELN1184	COIL	33μH
		K5101	QQR0678-001Z	FERRATE BEADS	
		K5102	QQR0678-001Z	FERRATE BEADS	
	⚠	PC5101	PC123F2	IC(PHOTO COUPLER)	
	⚠	T5001	QQS0031-002	SW TRANSF	
		HS1	LP40090-001A	HEAT SINK,Q5101	
		HS2	LP40090-001A	HEAT SINK,D5203	
		OT1	QYTDST3006Z	SCREW,Q5101	
		OT2	QYTDST3006Z	SCREW,D5203	
		FC5001	QNG0006-001Z	FUSE CLIP,F5001	
		FC5002	QNG0006-001Z	FUSE CLIP,F5001	
	⚠	LF5001	PELN1204-01-01	LINE FILTER	
	⚠	LF5002	QQR1031-001	LINE FILTER	
	⚠	CN5001	QGA7901C3-02	CONNECTOR,(1-2)AC IN	
		CN5321	QGF1208C1-12	FPC CONNECTOR,(1-12)VHS MAIN	
		CN5322	QGF1208C1-10	FPC CONNECTOR,(1-10)VHS MAIN	
		CN5323	QGF1208C1-08	FPC CONNECTOR,(1-8)VHS MAIN	
		CN5324	QGA2001C1-05	CONNECTOR,(1-5)MDA	
		CN5325	QGA2001C1-02	CONNECTOR,(1-2)FAN	
	⚠	CP5321	NMFZ012-1R0X-M	FUSE	T1.0A,50V
	⚠	CP5322	NMFZ012-1R0X-M	FUSE	T1.0A,50V
	⚠	CP5325	NMFZ012-1R0X-M	FUSE	T1.0A,50V
	⚠	F5001	QMF51E2-2R0J1	FUSE	T2.0A,AC250V

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MAIN BOARD ASSEMBLY <03>

	PW1	LPA10149-01B	MAIN BOARD ASSY,DVS3EU
		LPA10149-02B	MAIN BOARD ASSY,DVS3EK
	IC1	JCP8050-MSA	IC
	IC201	LC74775-9750	IC
	IC601	VC2076DP	IC
	IC701	MM1501XN	IC
	IC702	MM1503XN	IC
	IC703	MM1503XN	IC
	IC704	MM1504XN	IC
	IC705	MM1111XF	IC
	IC706	MM1115XF	IC
	IC2601	BA15218F-XE	IC
	IC2602	BU4052BCF	IC
	IC2603	BA15218F-XE	IC
	IC2604	BU4052BCF	IC

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		IC2605	BA15218F-XE	IC
		IC2606	BU4052BCF	IC
		IC3001	HD6432194SBD26F	IC
			or HD64F2194CFD26	IC, DVS3EU
		IC3002	S-80727AN-DQ-X	IC
			or S-80827ANUP-W	IC
			or R3111H271A	IC
		IC3003	AT24C16N-10SC-X	IC
			or BR24C16F	IC
			or X24165S	IC
			or 24LC16B/SN-X	IC
		IC3004	BA6956AN	IC
		IC3601	BU2090FS	IC
		IC3651	BU2090FS	IC
		Q5	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q7	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q8	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q9	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q10	2SA1576A/QR/-X	TRANSISTOR
		Q17	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q21	2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
		Q24	2SB1218A/QR/-X	TRANSISTOR
			or 2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q25	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q38	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q41	DTC144WU	TRANSISTOR,DVS3EU
			or RN1309	TRANSISTOR,DVS3EU
			or UN521E	TRANSISTOR,DVS3EU
			or PDTC144WU	TRANSISTOR,DVS3EU
		Q401	2SA1576A/QR/-X	TRANSISTOR
		Q402	2SA1576A/QR/-X	TRANSISTOR
		Q403	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
		Q405	2SA1576A/QR/-X	TRANSISTOR
		Q701	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q702	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		Q703	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q704	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q705	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q706	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q707	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q708	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q709	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q712	2SC3938/QR/-X	TRANSISTOR
		Q713	2SC3938/QR/-X	TRANSISTOR
		Q714	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q715	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q717	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q718	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q719	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
		Q720	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q721	2SC3938/QR/-X	TRANSISTOR
		Q722	2SC3938/QR/-X	TRANSISTOR
		Q723	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2001	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2002	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2003	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q2006	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
		Q2051	2SC4081/QRS/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q2052	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
			or 2SB1218A/QR/-X	TRANSISTOR	
		Q2053	DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
		Q2054	2SA1576A/QR/-X	TRANSISTOR	
			or 2SB1218A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q2061	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
		Q2062	2SA1576A/QR/-X	TRANSISTOR	
			or 2SB1218A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q2251	DTA144WU	TRANSISTOR	
			or PDTA144WU	TRANSISTOR	
			or RN2309	TRANSISTOR	
			or UN511E	TRANSISTOR	
		Q2252	DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or UN5211	TRANSISTOR	
		Q2601	DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or UN5211	TRANSISTOR	
		Q2602	DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or UN5211	TRANSISTOR	
		Q3001	2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
		Q3002	PTZ-NV16	PHOTO TRANSISTOR	
			or PTZ-NV16A	PHOTO TRANSISTOR	
		Q3003	PTZ-NV16	PHOTO TRANSISTOR	
			or PTZ-NV16A	PHOTO TRANSISTOR	
		Q3004	2SD1819A/QRS/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		Q3005	2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SC4081/QRS/-X	TRANSISTOR	
		Q3007	UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
		Q3009	UN521E	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
		Q3010	UN521E	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
		Q3011	UN521E	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or DTC144WU	TRANSISTOR	
		Q4001	UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		Q5401	2SB1256	TRANSISTOR	
		Q5402	DTC114TU	TRANSISTOR	
			or PDTC114TU	TRANSISTOR	
			or RN1311	TRANSISTOR	
			or UN5215	TRANSISTOR	
		Q5403	2SD1450/ST/-T	TRANSISTOR	
			or 2SD1302/ST/-T	TRANSISTOR	
		Q5404	2SD2144S/UV/-T	TRANSISTOR	
		Q6030	2SB1218A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
			or 2SA1576A/QR/-X	TRANSISTOR	
		Q6031	DTC114EU	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
			or UN5211	TRANSISTOR	
			or RN1302	TRANSISTOR	
		Q6032	DTC114EU	TRANSISTOR	
			or RN1302	TRANSISTOR	
			or UN5211	TRANSISTOR	
			or PDTC114EU	TRANSISTOR	
		Q7501	DTC144WU	TRANSISTOR	
			or PDTC144WU	TRANSISTOR	
			or UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
		Q7502	2SC1317/RS/-T	TRANSISTOR	
		D1	DA204U	DIODE	
		D6	MTZJ5.1C	ZENER DIODE	
		D202	QRE141J-152Y	RESISTOR	1.5kΩ,1/4W
		D203	QRE141J-101Y	RESISTOR	100Ω,1/4W
		D204	QRE141J-101Y	RESISTOR	100Ω,1/4W
		D701	DA204U	DIODE	
		D2001	1SS133	DIODE	
			or 1N4148M	DIODE	
		D2202	MTZJ8.2C	ZENER DIODE	
		D3001	LNB2301L01VI	LE DIODE	
		D3002	1SS133	DIODE	
			or 1N4148M	DIODE	
		D3003	RD39ES/B3/-T2	ZENER DIODE	
			or MTZJ39C	ZENER DIODE	
		D3004	11ES2	DIODE	
			or 1A3G	DIODE	
		D3005	11ES2	DIODE	
			or 1A3G	DIODE	
		D3007	1SS355	DIODE	
		D3008	1SS355	DIODE	
		D4001	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		D4002	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		D5401	11ES2	DIODE	
			or 1A3G	DIODE	
			or ERA15-02-T2	DIODE	
		D5402	MTZJ11C	ZENER DIODE	
			or RD11ES/B3/-T2	ZENER DIODE	
		D6002	HZ30-2L-T2	ZENER DIODE	
			or HZ30-2LTD	Z DIODE (M)	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1	NRVA02D-682X	CMF RESISTOR	6.8kΩ,1/10W
		R2	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R3	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R4	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R5	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R7	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R8	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R9	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R23	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R25	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R26	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R27	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R28	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R29	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R31	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R32	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R33	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R36	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R38	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R40	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R41	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R42	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R46	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R48	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R51	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R70	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R77	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R88	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R90	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R92	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R93	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R104	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R113	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R117	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R206	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R207	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R211	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R212	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R213	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R216	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R217	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R218	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R219	NRSA02J-512X	MG RESISTOR	5.1kΩ,1/10W
		R220	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R221	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R401	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R402	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R403	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R404	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R405	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
		R406	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R407	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R408	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R601	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R602	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
		R603	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R604	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
		R605	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R606	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
		R607	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R608	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
		R609	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R610	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R611	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R612	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R701	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R702	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R703	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R704	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R705	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R706	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R707	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R708	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R709	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R710	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R711	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R712	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R713	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R714	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R715	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R716	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R717	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R718	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R719	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R720	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R721	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R722	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R723	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R726	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R727	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R728	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R729	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R730	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R731	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R732	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R733	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R734	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R735	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R736	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R737	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R738	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R739	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		VR701	QVP0039-102Z	TRIM RESISTOR,DV AGC	
		R2003	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2004	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2005	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2006	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2007	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2008	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2009	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2010	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2011	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2013	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2014	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R2015	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R2016	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2017	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2022	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2053	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R2054	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2056	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2061	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R2062	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2063	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R2064	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2065	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2201	QRE141J-151Y	RESISTOR	150Ω,1/4W
		R2206	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2207	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2208	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2209	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2210	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2211	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2213	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2215	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2217	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2218	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2219	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2220	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2222	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2223	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2224	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2225	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2226	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2227	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2228	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2229	NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
		R2251	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2601	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
		R2602	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
		R2603	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2604	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2605	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R2606	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R2607	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2608	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2609	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2610	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2611	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2612	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2613	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2614	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2615	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2616	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2617	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2618	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2619	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2620	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2621	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2622	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2623	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2624	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R2625	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2626	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2627	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2628	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2629	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2630	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2631	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2632	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2633	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2634	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2635	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2636	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2637	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2638	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R3011	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3012	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3013	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3017	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3019	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R3022	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3025	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3026	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3027	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3030	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3032	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3033	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3038	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3039	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3040	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3041	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3042	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3044	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3046	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3047	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3048	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3049	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R3050	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R3051	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3052	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3053	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3054	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3055	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3056	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3057	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3058	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3059	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3060	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3061	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3063	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3066	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3071	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3072	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3073	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3074	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3075	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3076	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R3077	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3078	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3079	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3083	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3085	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3086	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3087	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3088	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3089	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3090	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3091	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3094	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3095	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3096	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3097	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3103	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3104	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3105	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3106	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3201	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3203	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3204	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3205	QRE141J-181Y	RESISTOR	180Ω,1/4W
		R3206	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3207	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3208	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3210	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3211	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3212	NRSA02J-474X	MG RESISTOR	470kΩ,1/10W
		R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
		R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3217	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3218	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3222	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3223	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3224	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3225	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3233	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3234	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3235	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R3236	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R3237	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3238	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3239	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3241	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3242	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3248	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3251	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3253	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3256	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3257	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3258	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3260	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3261	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3604	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3605	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3607	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3608	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3609	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3610	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3613	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3614	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3615	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3616	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4006	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4008	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4010	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4011	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4014	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R4015	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5401	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R5402	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R5403	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R5404	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R6020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6021	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6023	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6030	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R6031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6032	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R6033	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R6060	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R6061	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R6080	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R6508	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6510	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6553	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6554	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7504	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R7505	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R7506	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R7507	QRE121J-100Y	RESISTOR	10Ω,1/2W
		B8	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B13	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B65	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B201	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B202	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B204	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B206	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B207	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B704	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3004	QUY160-100Y	IM BUS WIRE	
		B3044	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3046	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3056	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3063	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		B3070	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3093	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B5402	QUY160-100Y	IM BUS WIRE	
		B5403	QUY153-050Y	IM BUS WIRE	
		B6001	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6032	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C1	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C4	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C5	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C6	NCB11EK-104X	CAPACITOR	0.1µF,25V
		C7	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C8	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C9	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C10	NDC21HG-151X	CAPACITOR	150pF,50V
		C11	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C12	NDC21HJ-8R0X	CAPACITOR	8pF,50V
		C14	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C15	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C16	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C17	QEKJ1HM-335	E CAPACITOR	3.3µF,50V
		C19	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C20	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C21	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C22	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C23	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C24	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C25	NDC21HJ-6R0X	CAPACITOR	6pF,50V
		C26	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C27	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C28	QEKJ1HM-335	E CAPACITOR	3.3µF,50V
		C29	NCB21EK-333X	CAPACITOR	0.033µF,25V
		C30	NCB21CK-474X	CAPACITOR	0.47µF,16V
		C31	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C32	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C33	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C34	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C35	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C36	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C37	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C38	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C39	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C40	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C45	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C46	NDC21HJ-101X	CAPACITOR	100pF,50V
		C51	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C59	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C60	QERF0JM-476	E CAPACITOR	47µF,6.3V
		C61	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C63	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C64	NDC21HJ-220X	CAPACITOR	22pF,50V
		C65	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C69	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C70	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C71	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C72	NDC21HJ-470X	CAPACITOR	47pF,50V
		C73	NDC21HJ-120X	CAPACITOR	12pF,50V
		C80	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C106	NCB21HK-821X	CAPACITOR	820pF,50V
		C108	NDC21HJ-680X	CAPACITOR	68pF,50V
		C109	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C110	NDC21HJ-820X	CAPACITOR	82pF,50V
		C114	NDC21HJ-181X	CAPACITOR	180pF,50V
		C139	NDC21HJ-470X	CAPACITOR	47pF,50V
		C202	NCB21CK-105X	CAPACITOR	1µF,16V
		C204	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C206	NDC21HJ-560X	CAPACITOR	56pF,50V
		C207	NCB21CK-474X	CAPACITOR	0.47µF,16V
		C209	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C211	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C212	NDC21HJ-330X	CAPACITOR	33pF,50V
		C213	NDC21HJ-330X	CAPACITOR	33pF,50V
		C215	NDC21HJ-101X	CAPACITOR	100pF,50V
		C216	NDC21HJ-101X	CAPACITOR	100pF,50V
		C217	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C218	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C219	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C220	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C222	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C401	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C402	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C403	NDC21HJ-131X	CAPACITOR	130pF,50V
		C404	NDC21HJ-470X	CAPACITOR	47pF,50V
		C406	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C407	NDC21HJ-150X	CAPACITOR	15pF,50V
		C601	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C602	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C603	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C604	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C605	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C606	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C607	NDC21HG-301X	CAPACITOR	300pF,50V
		C608	NDC21HG-301X	CAPACITOR	300pF,50V
		C609	NDC21HG-221X	CAPACITOR	220pF,50V
		C610	NDC21HG-820X	CAPACITOR	82pF,50V
		C611	NDC21HG-271X	CAPACITOR	270pF,50V
		C612	NDC21HJ-181X	CAPACITOR	180pF,50V
		C613	NDC21HJ-101X	CAPACITOR	100pF,50V
		C614	NDC21HG-301X	CAPACITOR	300pF,50V
		C615	NDC21HG-301X	CAPACITOR	300pF,50V
		C701	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C702	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C703	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C704	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C705	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C706	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C707	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C708	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C709	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C710	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C711	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C712	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C713	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C714	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C715	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C716	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C717	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C719	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C720	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C722	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C723	NCB21HK-103X	CAPACITOR	0.01µF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C724	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C725	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C726	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C727	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2001	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C2002	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2003	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C2005	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C2006	NCB21HK-123X	CAPACITOR	0.012µF,50V
		C2007	QEKJ1CM-226	E CAPACITOR	22µF,16V
		C2008	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C2009	NCB21HK-122X	CAPACITOR	0.0012µF,50V
		C2010	NCB21HK-152X	CAPACITOR	0.0015µF,50V
		C2011	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C2012	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C2016	NCB21HK-221X	CAPACITOR	220pF,50V
		C2051	NCB21HK-331X	CAPACITOR	330pF,50V
		C2052	QFLC1HJ-333Z	F CAPACITOR	0.033µF,50V
		C2053	NCB21HK-332X	CAPACITOR	0.0033µF,50V
		C2054	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2055	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2061	QFLC1HJ-333Z	F CAPACITOR	0.033µF,50V
		C2062	NCB21HK-332X	CAPACITOR	0.0033µF,50V
		C2063	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2064	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2201	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C2202	NCB21EK-333X	CAPACITOR	0.033µF,25V
		C2203	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2204	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C2205	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C2207	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C2208	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C2209	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C2210	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C2213	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2214	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2215	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C2216	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2217	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2218	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2219	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2220	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C2221	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2222	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2223	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2224	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2225	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C2226	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2227	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C2228	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C2251	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C2252	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2253	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2254	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2255	NDC21HJ-181X	CAPACITOR	180pF,50V
		C2601	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2602	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2603	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2604	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2605	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2606	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2607	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2608	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2609	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2610	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2611	QEKC1EM-106	E CAPACITOR	10µF,25V
		C2612	QEKC1EM-106	E CAPACITOR	10µF,25V
		C2613	QEKC1EM-106	E CAPACITOR	10µF,25V
		C2614	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2615	NDC21HJ-101X	CAPACITOR	100pF,50V
		C2616	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C2617	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C3001	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3002	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3003	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C3004	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3008	NDC21HJ-102X	CAPACITOR	0.001µF,50V
		C3010	QEZ0244-229	EDL CAPACITOR	0.0022F,5.5V
		C3012	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C3015	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3016	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3022	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3024	NDC21HJ-180X	CAPACITOR,DVS3EK	18pF,50V
			NDC21HJ-220X	CAPACITOR,DVS3EU	22pF,50V
		C3025	QAT3725-300Z	TRIM CAPACITOR,CLOCK ADJ,DVS3EU	
		C3027	QERF1CM-106	E CAPACITOR	10µF,16V
		C3030	QERF1CM-226	E CAPACITOR	22µF,16V
		C3031	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3032	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3033	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
		C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3040	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3041	NDC21HJ-120X	CAPACITOR,DVS3EK	12pF,50V
		C3042	QETL0JM-108	E CAPACITOR	1000µF,6.3V
		C3050	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3054	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3602	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3652	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4002	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4003	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C4004	QEKJ1AM-226	E CAPACITOR	22µF,10V
		C4006	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C4007	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C4008	NCB21AK-105X	CAPACITOR	1µF,10V
		C4009	NCB21HK-563X	CAPACITOR	0.056µF,50V
		C4010	NCB21EK-223X	CAPACITOR	0.022µF,25V
		C4011	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C4012	NCB21AK-105X	CAPACITOR	1µF,10V
		C4013	NCB21HK-563X	CAPACITOR	0.056µF,50V
		C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
		C4015	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C5401	QEKC1CM-476	E CAPACITOR	47µF,16V
		C5402	QEKC1CM-107	E CAPACITOR	100µF,16V
		C5403	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C5404	QEKJ1CM-107	E CAPACITOR	100µF,16V
		C6014	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6023	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C6032	NCF21EZ-473X	CAPACITOR	0.047µF,25V
		C6033	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C6037	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C6553	QEKJ0JM-337	E CAPACITOR	330µF,6.3V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C7502	QETJ0JM-477	E CAPACITOR	470µF,6.3V
		L1	QQL29BJ-100Z	COIL	10µH
		L2	QQL071J-121Y	COIL	120µH
		L3	QQL29BJ-100Z	COIL	10µH
		L4	QQL29BJ-100Z	COIL	10µH
		L5	QQR0521-012Z	NOISE FILTER	
		L12	QQR0967-001	COIL	12µH
		L13	QQL071J-330Y	COIL	33µH
		L15	QQL29BJ-100Z	COIL	10µH
		L18	QQL071J-220Y	COIL	22µH
		L19	QQL071J-120Y	COIL	12µH
		L20	QUY153-050Y	IM BUS WIRE	
		L24	QQL071J-270Y	COIL	27µH
		L27	QQL071J-330Y	COIL	33µH
		L28	QQL071J-680Y	COIL	68µH
		L30	QUY153-050Y	IM BUS WIRE	
		L201	QQL29BK-1R0Z	COIL	1.0µH
		L202	QUY153-050Y	IM BUS WIRE	
		L203	QQL071J-220Y	COIL	22µH
		L204	QQL29BJ-100Z	COIL	10µH
		L205	QUY153-050Y	IM BUS WIRE	
		L206	QQL29BJ-220Z	COIL	22µH
		L401	QQL071J-150Y	COIL	15µH
		L402	QUY153-050Y	IM BUS WIRE	
		L601	QQL29BJ-100Z	COIL	10µH
		L701	QQL29BJ-100Z	COIL	10µH
		L702	QQL29BJ-100Z	COIL	10µH
		L703	QQL29BJ-100Z	COIL	10µH
		L704	QQL29BJ-100Z	COIL	10µH
		L705	QQL29BJ-100Z	COIL	10µH
		L2001	QUY153-050Y	IM BUS WIRE	
		L2251	QQL29BJ-100Z	COIL	10µH
		L2252	QQL29BJ-151Z	COIL	150µH
		L3001	QUY153-050Y	IM BUS WIRE	
		L6001	QQL29BJ-100Z	COIL	10µH
		L6002	QQL29BJ-100Z	COIL	10µH
		L6005	QQL29BJ-100Z	COIL	10µH
		L6032	QUY153-050Y	IM BUS WIRE	
		L6501	QQL29BJ-3R3Z	COIL	3.3µH
		L7501	QQL29BJ-101Z	COIL	100µH
		X1	QAX0576-001Z	CRYSTAL RESONATOR	
		X3001	QAX0444-001	CRYSTAL RESONATOR,DVS3EK	
			QAX0445-001	CRYSTAL RESONATOR,DVS3EU	
		X3002	QAX0527-001	CRYSTAL RESONATOR	
		S3001	QSW0602-004	PUSH SWITCH,REC SAFETY	
		S3002	QSW0695-001	PUSH SWITCH,S CASS SW	
		K2001	NQL103K-R10X	COIL	0.1µH
		K2002	NQL103K-R10X	COIL	0.1µH
		K2003	NQL103K-R10X	COIL	0.1µH
		K2004	NQL103K-R10X	COIL	0.1µH
		K2251	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2252	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2253	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		PC3001	GP3S123	IC(PHOTO SENSOR)	
		PC3002	GP3S123	IC(PHOTO SENSOR)	
		T2051	PELN0860	OSC TRANSFORMER	
		T2052	PELN0861	OSC TRANSFORMER	
		TU6001	QAU0209-002	TUNER	
		SD1	LP30644-001A	S.CASE(PRE)	
		ST2	PU59391	STYLE PIN	
		OT1	QYTDSF3010Z	SCREW,X2,TERMINAL	
		OT2	LP40229-002A	PLATE	
		ET1	PQ21623-2-5	EARTH PLATE(RF)	
		WR100	QUQ112-0912CG	FFC WIRE,TERMINAL	
		WR101	QUQ112-1514CG	FFC WIRE,TERMINAL	
		CN1	QGF1028C1-13	FPC CONNECTOR,(1-13)DRUM	
		CN701	QGF1207C1-14	FPC CONNECTOR,(1-14)DV MAIN	
		CN2001	QGF1207C1-07	FPC CONNECTOR,(1-7)A/C HEAD	
		CN2002	QGB2532J1-02	CONNECTOR,(1-2)FE HEAD	
		CN2601	QGF1016C3-08	FFC/FPC CONNECTOR,(1-8)DV MAIN	
		CN3001	QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA	
		CN3002	QGB2532J1-02	CONNECTOR,(1-2)LOADING MOTOR	
		CN3003	QGB2015M2-08	CONNECTOR,(1-8)CAPSTAN MOTOR	
		CN3004	QGB2534J2-04	CONNECTOR,(1-4)ROTALY ENCODER	
		CN3011	QGF1209F2-20	FFC/FPC CONNECTOR,(1-20)SW/DISPLAY	
		CN3014	QGF1207C1-04	FPC CONNECTOR,(1-4)DV MAIN	
		CN7501	QGB2024K1-09S	CONNECTOR,(1-9)TERMINAL	
		CN7502	QGB2024K1-10S	CONNECTOR,(1-10)TERMINAL	
		CN7503	QGB2024K1-12S	CONNECTOR,(1-12)TERMINAL	
		CN7504	QGB2024K1-11S	CONNECTOR,(1-11)TERMINAL	
		CN7505	QGB2024K1-09S	CONNECTOR,(1-9)TERMINAL	
		CN7506	QGF1207C1-15	FPC CONNECTOR,(1-15)TERMINAL	
		CN7507	QGF1207C1-09	FPC CONNECTOR,(1-9)TERMINAL	
		CN7508	QGF1207C1-10	FPC CONNECTOR,(1-10)SW REG	
		CN7509	QGF1207C1-12	FPC CONNECTOR,(1-12)SW REG	
		CN7510	QGF1209F2-10	FPC CONNECTOR,(1-10)SW/DISPLAY	
	⚠	CP3003	ICP-N25	CIRCUIT PROTECTOR	
	⚠	CP3004	ICP-N25	CIRCUIT PROTECTOR	
	⚠	CP4001	ICP-N25	CIRCUIT PROTECTOR	

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3D DIGITAL/2M BOARD ASSEMBLY <05>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW1	LPA10105-05A	3D DIGITAL/2M BOARD ASSY
		IC1401	JCP8026	IC
	⚠	Q1401	2SC1317/RS/-T	TRANSISTOR
		Q1402	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1403	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1404	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1406	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1407	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1408	2SC4081/S/-X	TRANSISTOR
		Q1410	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1412	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1413	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1414	DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1417	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		Q1418	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1419	DTC124TU	TRANSISTOR	
		Q1420	2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
		D1401	RD4.3ES/B3/-T2	ZENER DIODE	
		D1402	1SS133	DIODE	
			or 1N4148M	DIODE	
		R1401	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R1402	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1404	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R1406	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1407	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1408	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R1410	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1411	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1413	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1414	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1415	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1416	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1417	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1418	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1421	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
		R1426	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1427	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R1428	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R1429	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1430	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1431	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1432	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R1433	NRSA02J-510X	MG RESISTOR	51Ω,1/10W
		R1434	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R1435	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R1436	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1437	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R1438	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1439	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1440	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1441	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1442	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R1446	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1447	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1448	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1449	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1450	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1452	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1453	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1454	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1455	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1458	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1459	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1460	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1461	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
		R1463	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		VR1401	QVZ3521-103Z	V RESISTOR,D/A LEVEL ADJ	
		B1412	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C1401	QEKJ1CM-336	E CAPACITOR	33μF,16V
		C1403	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1404	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1405	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1406	NCB21HK-103X	CAPACITOR	0.01μF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C1407	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1408	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1410	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1411	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1412	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1413	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1415	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1416	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C1417	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1421	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1422	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1423	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1424	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1425	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1426	NDC21HJ-390X	CAPACITOR	39pF,50V
		C1428	NDC21HJ-220X	CAPACITOR	22pF,50V
		C1429	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1430	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1432	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1433	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1435	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1436	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1437	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1438	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1439	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1440	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1441	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1442	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1444	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1445	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1446	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C1447	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1448	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C1449	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1450	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1451	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1452	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1453	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1454	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1455	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1463	QEKJ0JM-336	E CAPACITOR	33μF,6.3V
		C1468	NDC21HJ-101X	CAPACITOR	100pF,50V
		C1470	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1471	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1472	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1473	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		L1401	QQL29BJ-100Z	COIL	10μH
		L1402	QQL071J-6R8Y	COIL	6.8μH
		L1403	QQL071J-6R8Y	COIL	6.8μH
		L1404	QQL071J-6R8Y	COIL	6.8μH
		L1405	QQL01BJ-101Z	COIL	100μH
		L1406	QQL071J-330Y	COIL	33μH
		L1407	QQL01BJ-101Z	COIL	100μH
		L1409	QQL071J-1R0Y	COIL	1.0μH
		LC1401	QQR0521-007Z	NOISE FILTER	
		LC1402	QQR0521-006Z	NOISE FILTER	
		SD1	LP30706-001C	SHIELD FRAME(S-VHS)	
		SD2	LP30684-001A	SHIELD CASE(S-VHS)	
		CN1401	QGG2502K1-17	HEADER PIN	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	

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TERMINAL BOARD ASSEMBLY <06>

	PW1	LPA10151-01A	TERMINAL BOARD ASSY	
	IC501	JCP8018	IC	
		or JCP8028	IC	
		or JCP8038	IC	
		or JCP8028-01	IC	
	IC901	BH7636S	IC	
	Q901	2SB1218A/QR/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q902	UN521E	TRANSISTOR	
		or DTC144WU	TRANSISTOR	
		or PDTC144WU	TRANSISTOR	
		or RN1309	TRANSISTOR	
	Q903	2SB1218A/QR/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q904	2SB1218A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
	Q905	2SB1218A/QR/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q906	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q907	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q908	2SD1819A/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
	Q909	2SD1819A/QRS/-X	TRANSISTOR	
		or 2SC4081/QRS/-X	TRANSISTOR	
		or 2PC4081/R/-X	TRANSISTOR	
	Q910	2SB1218A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
	Q911	UN5211	TRANSISTOR	
		or DTC114EU	TRANSISTOR	
		or PDTC114EU	TRANSISTOR	
		or RN1302	TRANSISTOR	
	Q912	2SB1218A/QR/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
	Q913	2SB1218A/QR/-X	TRANSISTOR	
		or 2PA1576/R/-X	TRANSISTOR	
		or 2SA1576A/QR/-X	TRANSISTOR	
	D901	MTZJ12C	ZENER DIODE	
	D902	MTZJ12C	ZENER DIODE	
	R503	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R516	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R517	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R525	QRE141J-125Y	RESISTOR	1.2MΩ,1/4W
	R531	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R532	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R533	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R534	NRSA02J-101X	MG RESISTOR	100Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R535	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R536	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R901	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R902	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R903	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R904	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R905	NQL402M-4R7X	COIL	4.7µH
		R906	NQL402M-4R7X	COIL	4.7µH
		R907	QQL231J-100Y	COIL	10µH
		R908	QQL231J-100Y	COIL	10µH
		R909	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R910	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R911	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R912	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
		R913	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R914	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R915	QQL231J-100Y	COIL	10µH
		R916	QQL231J-100Y	COIL	10µH
		R917	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R918	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R919	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R920	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R921	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R922	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R923	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R924	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R925	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R926	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R927	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R928	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R929	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R930	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R931	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R932	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R933	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R934	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R935	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R936	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R937	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R938	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R939	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R940	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R941	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R942	QRE121J-331Y	RESISTOR	330Ω,1/2W
		R943	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R944	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R945	QRE121J-391Y	RESISTOR	390Ω,1/2W
		R946	QRE121J-391Y	RESISTOR	390Ω,1/2W
		R947	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
		R948	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		B551	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B552	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C501	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C502	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C503	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C504	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C506	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C507	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C508	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C509	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C510	QEKJ0JM-476	E CAPACITOR	47µF,6.3V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C511	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C512	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C513	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C514	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C515	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C516	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C518	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C519	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C520	QEKJ1HM-475	E CAPACITOR	4.7µF,50V
		C535	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C551	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C553	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C554	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C556	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C557	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C559	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C560	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C561	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C563	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C568	NDC21HJ-680X	CAPACITOR	68pF,50V
		C569	NDC21HJ-680X	CAPACITOR	68pF,50V
		C570	NDC21HJ-680X	CAPACITOR	68pF,50V
		C571	NDC21HJ-680X	CAPACITOR	68pF,50V
		C572	NDC21HJ-680X	CAPACITOR	68pF,50V
		C573	NDC21HJ-680X	CAPACITOR	68pF,50V
		C575	NDC21HJ-101X	CAPACITOR	100pF,50V
		C901	NCB21HK-331X	CAPACITOR	330pF,50V
		C902	NCB21HK-331X	CAPACITOR	330pF,50V
		C903	NCB21HK-471X	CAPACITOR	470pF,50V
		C905	NCB21HK-471X	CAPACITOR	470pF,50V
		C907	NCB21HK-471X	CAPACITOR	470pF,50V
		C908	NCB21HK-471X	CAPACITOR	470pF,50V
		C909	NCB21HK-331X	CAPACITOR	330pF,50V
		C910	NCB21HK-331X	CAPACITOR	330pF,50V
		C911	NCB21HK-471X	CAPACITOR	470pF,50V
		C912	NCB21HK-331X	CAPACITOR	330pF,50V
		C913	NCB21HK-471X	CAPACITOR	470pF,50V
		C914	NCB21HK-331X	CAPACITOR	330pF,50V
		C915	NCB21HK-471X	CAPACITOR	470pF,50V
		C916	NCB21HK-471X	CAPACITOR	470pF,50V
		C921	NCB21HK-331X	CAPACITOR	330pF,50V
		C922	NCB21HK-331X	CAPACITOR	330pF,50V
		C925	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C926	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C929	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C930	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C931	QEKJ1CM-107	E CAPACITOR	100µF,16V
		C934	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C935	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C937	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C938	NDC21HJ-330X	CAPACITOR	33pF,50V
		C939	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C940	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C942	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C943	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C944	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C945	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C946	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C947	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C949	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C950	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C951	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C952	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C953	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C954	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C955	QEKJ0JM-337	E CAPACITOR	330µF,6.3V
		L501	QQL29BJ-100Z	COIL	10µH
		L503	QQL29BJ-100Z	COIL	10µH
		L505	QUY153-050Y	IM BUS WIRE	
		L901	QQL071J-4R7Y	COIL	4.7µH
		L902	QQL071J-4R7Y	COIL	4.7µH
		L903	QQL071J-4R7Y	COIL	4.7µH
		L904	QQL071J-4R7Y	COIL	4.7µH
		L905	QQL071J-1R0Y	COIL	1.0µH
		L906	QQL071J-4R7Y	COIL	4.7µH
		L907	QQL071J-4R7Y	COIL	4.7µH
		L908	QQL071J-4R7Y	COIL	4.7µH
		L909	QQL071J-4R7Y	COIL	4.7µH
		L910	QQL231J-R22Y	COIL	0.22µH
		L911	QQL071J-150Y	COIL	15µH
		L912	QQL071J-150Y	COIL	15µH
		L913	QUY153-050Y	IM BUS WIRE	
		L916	QQL071J-1R0Y	COIL	1.0µH
		L919	QUY153-050Y	IM BUS WIRE	
		ET1	LP30918-001A	EARTH PLATE	
		ET2	LP30915-002A	EARTH PLATE	
		OT1	QYTDSF3010Z	SCREW,X4	
		OT2	QYTDSF3010Z	SCREW,X4	
	⚠	TB1	LP10414-001A	TERMINAL BOARD	
		J901	PEMC1177	RGB21PIN SOCKET,AV2	
		J902	PEMC1177	RGB21PIN SOCKET,AV1	
		J903	QNN0023-003	PIN JACK,A.OUT(L)	
		J904	QNN0023-002	PIN JACK,A.OUT(R)	
		J905	PU60659	MINI JACK,SAT.CTL	
		J906	QND0084-001	S JACK,S OUT	
		CN502	QGF1208F1-15	FPC CONNECTOR,(1-15)VHS MAIN	
		CN503	QGB2024J1-09S	CONNECTOR,(1-9)VHS MAIN	
		CN504	QGB2024J1-10S	CONNECTOR,(1-10)VHS MAIN	
		CN505	QGB2024J1-12S	CONNECTOR,(1-12)VHS MAIN	
		CN506	QGB2024J1-11S	CONNECTOR,(1-11)VHS MAIN	
		CN901	QGF1208F1-09	FPC CONNECTOR,(1-9)VHS MAIN	
		CN902	QGB2024J1-09S	CONNECTOR,(1-9)VHS MAIN	

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A/C HEAD BOARD ASSEMBLY <12>

	PW1	LP10122-01A1	A/C HEAD BOARD ASSY
	CN1	QGF1208F1-07	FPC CONNECTOR

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DEMOD BOARD ASSEMBLY <14>

	PW1	LPA10094-04A	DEMOD BOARD ASSY
	IC6701	MSP3417D	IC
		or MSP3417DG3	IC
		or MSP3417G	IC

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		Q6701	2SC3936/BC/-X	TRANSISTOR	
		D6701	1SS133	DIODE	
			or 1N4148M	DIODE	
		R6701	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R6702	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R6703	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
		R6704	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6705	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R6706	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6707	NQR0200-003X	FERRITE BEAD	
		R6708	NQR0200-003X	FERRITE BEAD	
		R6709	NQR0200-003X	FERRITE BEAD	
		R6710	NQR0200-003X	FERRITE BEAD	
		R6711	NRSA02J-684X	MG RESISTOR	680kΩ,1/10W
		R6712	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6714	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6716	NQR0200-003X	FERRITE BEAD	
		R6719	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R6720	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R6721	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		C6701	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6704	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6705	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C6707	NDC21HJ-470X	CAPACITOR	47pF,50V
		C6708	NDC21HJ-7R0X	CAPACITOR	7pF,50V
		C6709	NDC21HJ-3R0X	CAPACITOR	3pF,50V
		C6713	NCF21CZ-224X	CAPACITOR	0.22µF,16V
		C6714	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C6715	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C6716	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C6717	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C6719	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C6720	QEKJ1EM-106	E CAPACITOR	10µF,25V
		C6721	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C6723	NCB21HK-103X	CAPACITOR	0.01µF,50V
		L6701	QUY153-050Y	IM BUS WIRE	
		L6702	QQL231J-3R3Y	COIL	3.3µH
		X6701	QAX0443-001	CRYSTAL RESONATOR	
		K6701	NRSA02J-330X	MG RESISTOR	33Ω,1/10W
		K6702	NQR0200-003X	FERRITE BEAD	
		K6703	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		K6704	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		K6705	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		K6706	NRSA02J-470X	MG RESISTOR	47Ω,1/10W
		BK1	LP40425-001A	BRACKET(BOARD)	
		CN6701	QGG2502K1-10	HEADER PIN	

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POWER SW BOARD ASSEMBLY <27>

	PW2	LPA10150-01B2	POWER BOARD ASSY
	S7001	QSW0456-002Z	TACT SWITCH,POWER
	S7014	QSW0456-002Z	TACT SWITCH,DV EJECT

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	

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SW/DISPLAY BOARD ASSEMBLY <28>

		PW1	LPA10150-01B1	SW/DISPLAY BOARD ASSY
		IC7001	M35500BFP	IC
			or M35500BGP	IC
			or M35500AGP	IC
		IC7002	GP1U281X	IR DETECT UNIT
			or PNA4652M00XB	IR DETECT UNIT
		D7002	RD9.1ES/B2/-T2	ZENER DIODE
			or MTZJ9.1B	ZENER DIODE
		D7004	1SS133	DIODE
			or 1SS270A	DIODE
		D7005	1SS133	DIODE
			or 1SS270A	DIODE
		D7006	1SS133	DIODE
			or 1SS270A	DIODE
		D7009	SLR-342DC3F	LE DIODE
		D7010	SLR-342MC3F	LE DIODE
		D7011	SLR-342VC3F	LE DIODE
		D7012	SLR-342DC3F	LE DIODE
		D7013	SLR-342MC3F	LE DIODE
		D7014	SLR-342VC3F	LE DIODE
		D7015	SLR-342MC3F	LE DIODE
		D7016	SLR-342MC3F	LE DIODE
		R7001	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7002	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7003	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7004	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R7006	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7007	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7008	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7013	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7014	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R7015	QRE141J-0R0Y	RESISTOR	0Ω,1/4W
		R7020	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7021	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
		R7022	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
		R7023	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R7024	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
		R7025	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R7026	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
		R7027	QRE141J-153Y	RESISTOR	15kΩ,1/4W
		R7028	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R7030	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7031	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
		R7032	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
		R7033	QRE141J-222Y	RESISTOR	2.2kΩ,1/4W
		R7034	QRE141J-272Y	RESISTOR	2.7kΩ,1/4W
		R7035	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R7036	QRE141J-682Y	RESISTOR	6.8kΩ,1/4W
		R7037	QRE141J-153Y	RESISTOR	15kΩ,1/4W
		R7038	QRE141J-393Y	RESISTOR	39kΩ,1/4W
		R7040	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7041	QRE141J-122Y	RESISTOR	1.2kΩ,1/4W
		R7042	QRE141J-182Y	RESISTOR	1.8kΩ,1/4W
		R7051	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7052	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7053	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7054	QRE141J-331Y	RESISTOR	330Ω,1/4W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R7055	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7056	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7057	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7058	QRE141J-331Y	RESISTOR	330Ω,1/4W
		R7191	QRE141J-750Y	RESISTOR	75Ω,1/4W
		R7192	QUY153-050Y	IM BUS WIRE	
		R7193	QRE141J-750Y	RESISTOR	75Ω,1/4W
		R7194	QRE141J-750Y	RESISTOR	75Ω,1/4W
		B7001	QUY153-050Y	IM BUS WIRE	
		C7001	QCFB1HZ-104	CAPACITOR	0.1µF,50V
		C7007	QERF0JM-476	E CAPACITOR	47µF,6.3V
		C7010	QCFB1HZ-104	CAPACITOR	0.1µF,50V
		C7011	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C7019	QDVB1EZ-223Y	CAPACITOR	0.022µF,25V
		C7023	QERF1HM-106	E CAPACITOR	10µF,50V
		C7192	QCBB1HK-681	CAPACITOR	680pF,50V
		C7194	QCBB1HK-681	CAPACITOR	680pF,50V
		C7196	QDYB1CM-103Y	CAPACITOR	0.01µF,16V
		L7001	QQL29BK-1R0Z	COIL	1.0µH
		L7002	QUY153-050Y	IM BUS WIRE	
		L7191	QRE141J-101Y	RESISTOR	100Ω,1/4W
		L7192	QRE141J-101Y	RESISTOR	100Ω,1/4W
		L7193	QUY153-050Y	IM BUS WIRE	
		L7194	QUY153-050Y	IM BUS WIRE	
		DI7001	QLF0031-002	FL TUBE	
		HD1	PQ34949	FDP HOLDER(L),DI7001	
		HD2	PQ34950	FDP HOLDER(R),DI7001	
		HD3	PQM30038-2-2	LED HOLDER,D7009	
		HD4	PQM30038-2-2	LED HOLDER,D7010	
		HD5	PQM30038-2-2	LED HOLDER,D7011	
		HD6	PQM30038-2-2	LED HOLDER,D7012	
		HD7	PQM30038-2-2	LED HOLDER,D7013	
		HD8	PQM30038-2-2	LED HOLDER,D7014	
		HD9	PQM30038-2-2	LED HOLDER,D7015	
		HD10	PQM30038-2-2	LED HOLDER,D7016	
		S7004	QSW0456-002Z	TACT SWITCH,REC	
		S7005	QSW0456-002Z	TACT SWITCH,PAUSE	
		S7006	QSW0456-002Z	TACT SWITCH,PLAY	
		S7007	QSW0456-002Z	TACT SWITCH,STOP	
		S7008	QSW0456-001Z	TACT SWITCH,I-O/R-SPD	
		S7009	QSW0456-001Z	TACT SWITCH,ST/CANCEL	
		S7010	QSW0456-002Z	TACT SWITCH,DV/HDD	
		S7011	QSW0456-002Z	TACT SWITCH,VHS EJECT	
		S7012	QSW0456-002Z	TACT SWITCH,EXP.T/MENU	
		S7013	QSW0456-002Z	TACT SWITCH,VHS	
		S7015	QSW0456-001Z	TACT SWITCH,RAE/SUMBNL	
		S7016	QSW0456-001Z	TACT SWITCH,INS/R-LINK	
		S7017	QSW0456-001Z	TACT SWITCH,A.DUB	
		S7021	QSW0456-002Z	TACT SWITCH,DV>VHS/REW	
		S7022	QSW0456-002Z	TACT SWITCH,DV<VHS/FF	
		S7023	QSW0456-002Z	TACT SWITCH,DUB	
		FW7001	QUM023-12A4A4	P.R.WIRE,(1-3)POWER SW	
		FW7003	QUM024-08A4A4	P.R WIRE,(1-4)JOG	
		J7191	QNN0371-004	PIN JACK,FRONT V IN	
		J7192	QNN0371-003	PIN JACK,FRONT L IN	
		J7193	QNN0372-002	PIN JACK,FRONT R IN	
		J7194	QND0085-001	S JACK,FRONT S IN	
		J7195	PU60659	MINI JACK,PAUSE	
		CN7001	QGF1201C1-20	FPC CONNECTOR,(1-20)VHS MAIN	
		CN7191	QGF1201F1-10	FPC CONNECTOR,(1-10)VHS MAIN	

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DV MAIN BOARD ASSEMBLY <50>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW1	LPA10165-01C	DV MAIN PWB ASSY
		IC1001	MM1561JF	IC
		IC1002	MM1572FN	IC
		IC1003	MM1573AN	IC
		IC1004	MM1572KN	IC
		IC1005	S-80823ANNP-W	IC
		IC1501	MN103004KFF	IC
			or MN1030F04KHFFF	IC
		IC1502	TC7W14FK	IC
		IC1503	TC7W04FU	IC(DIGITAL)
		IC1504	25LC040-I/SN-X	IC
		IC2001	JCY0176	IC
		IC2002	JCY0136	IC
		IC2007	TLC2940IPW	IC
		IC3001	JCP8029	IC
		IC3101	TC7SH04F	IC(DIGITAL)
		IC3102	TC7SH04F	IC(DIGITAL)
		IC3151	M62366GP	IC
		IC3501	NJM2538V	IC
		IC3701	AK4518-VF-X	IC
		IC3702	BA15218F-XE	IC
		IC3703	BA15218F-XE	IC
		IC4001	JCY0132	IC
		IC4002	TC7SH00FU	IC(DIGITAL)
		Q1001	2SB1302/ST/-X	TRANSISTOR
		Q1002	DTC144EE	TRANSISTOR
		Q1003	2SB1302/ST/-X	TRANSISTOR
		Q1004	DTC144EE	TRANSISTOR
		Q1005	2SB1302/ST/-X	TRANSISTOR
		Q1006	DTC144EE	TRANSISTOR
		Q1007	2SB1302/ST/-X	TRANSISTOR
		Q1008	DTC144EE	TRANSISTOR
		Q1501	2SC4617/RS/-X	TRANSISTOR
		Q1502	2SC4617/RS/-X	TRANSISTOR
		Q1511	DTA114EE	TRANSISTOR
		Q1512	UMC3N	TRANSISTOR
		Q1513	UMC3N	TRANSISTOR
		Q3101	2SA1576A/RS/-X	TRANSISTOR
		Q3102	2SA1576A/RS/-X	TRANSISTOR
		Q3111	2SA1576A/RS/-X	TRANSISTOR
		Q3112	HN1B04FU/YG/-X	PAIR TRANSISTOR
		Q3113	2SC4081/RS/-X	TRANSISTOR
		Q3114	2SC4081/S/-X	TRANSISTOR
		Q3115	DTC144EE	TRANSISTOR
		Q3131	2SA1576A/RS/-X	TRANSISTOR
		Q3132	HN1B04FU/YG/-X	PAIR TRANSISTOR
		Q3133	2SC4081/RS/-X	TRANSISTOR
		Q3135	DTC144EE	TRANSISTOR
		Q3501	DTC144EE	TRANSISTOR
		Q3502	2SA1576A/RS/-X	TRANSISTOR
		Q3503	2SA1576A/RS/-X	TRANSISTOR
		D1501	SB007W03Q	SB DIODE
		D1502	SB007W03Q	SB DIODE
		D1503	SB007W03Q	SB DIODE
		D2002	EC2C01C	VARI CAP DIODE
		D2003	EC2C01C	VARI CAP DIODE
		D2004	EC2C01C	VARI CAP DIODE

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R1001	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1002	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1003	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1004	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1005	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1006	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
	R1007	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1008	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
	R1009	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R1501	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R1502	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1505	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R1506	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1507	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R1508	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R1509	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R1516	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R1517	NRSA63J-202X	MG RESISTOR	2kΩ,1/16W
	R1518	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R1519	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R1520	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R1521	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1522	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1531	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R1532	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R1533	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R1534	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
	R1535	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R1536	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R1541	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1542	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1543	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1545	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R1551	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1552	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1553	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1554	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1555	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1561	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R1581	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
	R1582	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1583	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R1584	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1585	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R1586	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R1601	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
	R1605	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R1611	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R1612	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R1613	NRSA63J-330X	MG RESISTOR	33Ω,1/16W
	R1614	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
	R1615	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
	R1616	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1617	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1621	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1622	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1625	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2011	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
	R2012	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W
	R2013	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
	R2014	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R2016	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R2017	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2018	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
	R2019	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R2020	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R2021	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2022	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2023	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2027	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
	R2032	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2033	NRSA63J-242X	MG RESISTOR	2.4kΩ,1/16W
	R2034	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
	R2035	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
	R2036	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
	R2037	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
	R2038	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
	R2039	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
	R2040	NRSA63J-512X	MG RESISTOR	5.1kΩ,1/16W
	R2041	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2042	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2043	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R2044	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2047	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
	R2048	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
	R2050	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R2052	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2071	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R2073	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
	R2087	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R2090	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2091	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2092	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2093	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2094	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2098	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2140	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2141	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2142	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2145	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
	R2146	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
	R2149	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2150	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R2161	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R3003	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
	R3004	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
	R3005	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R3008	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
	R3048	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R3054	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R3073	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
	R3074	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
	R3075	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
	R3076	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R3078	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
	R3079	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
	R3081	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
	R3102	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R3103	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
	R3105	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R3106	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
	R3111	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3112	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R3113	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
R3114	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3115	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3116	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3117	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3118	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R3119	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R3120	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3121	NRVA63D-821X	CMF RESISTOR	820Ω,1/16W
R3122	NRVA63D-821X	CMF RESISTOR	820Ω,1/16W
R3123	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R3124	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R3125	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R3131	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R3132	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R3133	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
R3134	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3135	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3136	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R3137	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3138	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R3139	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R3140	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3141	NRVA63D-821X	CMF RESISTOR	820Ω,1/16W
R3142	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R3143	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R3161	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3162	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3163	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3164	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3165	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3501	NRSA63J-225X	MG RESISTOR	2.2MΩ,1/16W
R3502	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3503	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3504	NRSA63J-121X	MG RESISTOR	120Ω,1/16W
R3506	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3508	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3510	NRSA63J-121X	MG RESISTOR	120Ω,1/16W
R3512	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3515	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3516	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3521	NRSA63J-621X	MG RESISTOR	620Ω,1/16W
R3522	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R3523	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3524	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3526	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3527	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R3528	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3529	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3533	NRSA63J-203X	MG RESISTOR	20kΩ,1/16W
R3534	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3541	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3542	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3543	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3544	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3545	NRSA63J-680X	MG RESISTOR	68Ω,1/16W
R3556	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3701	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R3702	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R3703	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
R3704	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
R3709	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
R3711	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W
R3712	NRSA63J-302X	MG RESISTOR	3kΩ,1/16W
R3713	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3714	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3716	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3717	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3719	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3720	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3721	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3722	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3723	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3726	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3727	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3728	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R3740	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R4001	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R4002	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R4003	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4004	NRSA63J-241X	MG RESISTOR	240Ω,1/16W
R4005	NRSA63J-241X	MG RESISTOR	240Ω,1/16W
R4006	NRSA63J-241X	MG RESISTOR	240Ω,1/16W
R4007	NRSA63J-241X	MG RESISTOR	240Ω,1/16W
R4008	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R4009	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R4010	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R4021	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
RA1505	NRZ0040-102X	NET RESISTOR	
RA1506	NRZ0040-102X	NET RESISTOR	
RA1507	NRZ0040-102X	NET RESISTOR	
RA1508	NRZ0040-102X	NET RESISTOR	
RA1509	NRZ0040-102X	NET RESISTOR	
RA1510	NRZ0040-473X	NET RESISTOR	
C1001	NEA70JM-107X	E CAPACITOR	100µF,6.3V
C1002	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1003	NEA70JM-107X	E CAPACITOR	100µF,6.3V
C1004	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1005	NEA70JM-107X	E CAPACITOR	100µF,6.3V
C1006	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1007	NCF21CZ-105X	CAPACITOR	1µF,16V
C1008	NCF21CZ-105X	CAPACITOR	1µF,16V
C1009	NCF21CZ-105X	CAPACITOR	1µF,16V
C1010	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1011	NCB31CK-104X	CAPACITOR	0.1µF,16V
C1012	NCF21CZ-105X	CAPACITOR	1µF,16V
C1014	NBE21AM-106X	T CAPACITOR	10µF,10V
C1015	NCF21CZ-105X	CAPACITOR	1µF,16V
C1016	NCF21CZ-105X	CAPACITOR	1µF,16V
C1017	NCB31EK-103X	CAPACITOR	0.01µF,25V
C1018	NCF21CZ-105X	CAPACITOR	1µF,16V
C1019	NCB31EK-103X	CAPACITOR	0.01µF,25V
C1020	NCF21CZ-105X	CAPACITOR	1µF,16V
C1021	NBE21AM-106X	T CAPACITOR	10µF,10V
C1022	NCF21CZ-105X	CAPACITOR	1µF,16V
C1023	NCB31EK-103X	CAPACITOR	0.01µF,25V
C1024	NCF21CZ-105X	CAPACITOR	1µF,16V
C1025	NBE21AM-106X	T CAPACITOR	10µF,10V
C1026	NCF21CZ-105X	CAPACITOR	1µF,16V
C1027	NCB31EK-103X	CAPACITOR	0.01µF,25V
C1028	NCB31EK-103X	CAPACITOR	0.01µF,25V

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C1029	NCF21CZ-105X	CAPACITOR	1µF,16V
	C1030	NBE21AM-106X	T CAPACITOR	10µF,10V
	C1501	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C1502	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C1504	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C1505	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C1506	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C1507	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C1508	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C1509	NEA70JM-476X	E CAPACITOR	47µF,6.3V
	C1510	NEA70JM-476X	E CAPACITOR	47µF,6.3V
	C1515	NCB31EK-223X	CAPACITOR	0.022µF,25V
	C1516	NCB31EK-223X	CAPACITOR	0.022µF,25V
	C1517	NCB31EK-223X	CAPACITOR	0.022µF,25V
	C1518	NCB31EK-223X	CAPACITOR	0.022µF,25V
	C1520	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C1521	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C1522	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C1523	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2001	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2002	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2003	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2005	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2006	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2007	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2008	NDC31HJ-120X	CAPACITOR	12pF,50V
	C2009	NDC31HJ-120X	CAPACITOR	12pF,50V
	C2010	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2011	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2014	NDC31HJ-390X	CAPACITOR	39pF,50V
	C2015	NDC31HJ-102X	CAPACITOR	0.001µF,50V
	C2016	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2017	NCF21CZ-105X	CAPACITOR	1µF,16V
	C2018	NCB31EK-472X	CAPACITOR	0.0047µF,25V
	C2019	NDC31HJ-271X	CAPACITOR	270pF,50V
	C2020	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2022	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2023	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2024	NDC31HJ-6R0X	CAPACITOR	6pF,50V
	C2025	NDC31HJ-6R0X	CAPACITOR	6pF,50V
	C2026	NDC31HJ-102X	CAPACITOR	0.001µF,50V
	C2027	NDC31HJ-390X	CAPACITOR	39pF,50V
	C2028	NDC31HJ-102X	CAPACITOR	0.001µF,50V
	C2029	NDC31HJ-560X	CAPACITOR	56pF,50V
	C2031	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2032	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2036	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2037	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2038	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2039	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2040	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2041	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2042	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2043	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2044	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2046	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2047	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2048	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C2051	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C2052	NCF21CZ-105X	CAPACITOR	1µF,16V
	C2053	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2054	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C2055	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C2056	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2057	NCF21CZ-105X	CAPACITOR	1µF,16V
	C2058	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C2059	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C2060	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2061	NCF21CZ-105X	CAPACITOR	1µF,16V
	C2062	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C2063	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2064	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C2101	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2102	NDC31HJ-151X	CAPACITOR	150pF,50V
	C2104	NCB31EK-473X	CAPACITOR	0.047µF,25V
	C2105	NBE21AM-106X	T CAPACITOR	10µF,10V
	C2113	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C2114	NCB31EK-103X	CAPACITOR	0.01µF,25V
	C2115	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3001	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3002	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3003	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3004	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3005	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3006	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3007	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3008	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3009	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3010	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3011	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C3012	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3013	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3014	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3015	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3016	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3017	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3018	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C3021	NEA70JM-476X	E CAPACITOR	47µF,6.3V
	C3022	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3101	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3102	NEA70JM-476X	E CAPACITOR	47µF,6.3V
	C3103	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3106	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C3107	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3108	NEA70JM-226X	E CAPACITOR	22µF,6.3V
	C3109	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3111	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3112	NEA70JM-476X	E CAPACITOR	47µF,6.3V
	C3113	NDC31HJ-220X	CAPACITOR	22pF,50V
	C3114	NDC31HJ-8R0X	CAPACITOR	8pF,50V
	C3115	NDC31HJ-220X	CAPACITOR	22pF,50V
	C3116	NDC31HJ-220X	CAPACITOR	22pF,50V
	C3117	NCB20JM-475X	CAPACITOR	4.7µF,6.3V
	C3119	NCB20JM-475X	CAPACITOR	4.7µF,6.3V
	C3120	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3121	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3123	NDC31HJ-120X	CAPACITOR	12pF,50V
	C3124	NDC31HJ-8R0X	CAPACITOR	8pF,50V
	C3127	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3129	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3130	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C3131	NEA70JM-226X	E CAPACITOR	22µF,6.3V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C3132	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3140	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3141	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3142	NDC31HJ-120X	CAPACITOR	12pF,50V
		C3143	NDC31HJ-120X	CAPACITOR	12pF,50V
		C3144	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3501	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3502	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3503	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3504	NEA70JM-226X	E CAPACITOR	22µF,6.3V
		C3505	NEA70JM-107X	E CAPACITOR	100µF,6.3V
		C3506	NEA70JM-226X	E CAPACITOR	22µF,6.3V
		C3507	NDC31HJ-220X	CAPACITOR	22pF,50V
		C3508	NDC31HJ-220X	CAPACITOR	22pF,50V
		C3509	NDC31HJ-220X	CAPACITOR	22pF,50V
		C3510	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3511	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3513	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3514	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3515	NEA70JM-226X	E CAPACITOR	22µF,6.3V
		C3516	NEA70JM-226X	E CAPACITOR	22µF,6.3V
		C3517	NEA70JM-107X	E CAPACITOR	100µF,6.3V
		C3521	NEA70JM-107X	E CAPACITOR	100µF,6.3V
		C3523	NEA70JM-226X	E CAPACITOR	22µF,6.3V
		C3531	NDC31HJ-120X	CAPACITOR	12pF,50V
		C3532	NDC31HJ-150X	CAPACITOR	15pF,50V
		C3533	NDC31HJ-470X	CAPACITOR	47pF,50V
		C3534	NDC31HJ-390X	CAPACITOR	39pF,50V
		C3535	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3536	NDC31HJ-120X	CAPACITOR	12pF,50V
		C3537	NDC31HJ-150X	CAPACITOR	15pF,50V
		C3538	NDC31HJ-470X	CAPACITOR	47pF,50V
		C3539	NDC31HJ-390X	CAPACITOR	39pF,50V
		C3540	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3701	NCF21CZ-105X	CAPACITOR	1µF,16V
		C3702	NCF21CZ-105X	CAPACITOR	1µF,16V
		C3703	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3704	NEA71CM-106X	E CAPACITOR	10µF,16V
		C3705	NDC31HJ-151X	CAPACITOR	150pF,50V
		C3706	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3707	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3708	NDC31HJ-151X	CAPACITOR	150pF,50V
		C3709	NEA71CM-106X	E CAPACITOR	10µF,16V
		C3710	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3711	NEA71CM-106X	E CAPACITOR	10µF,16V
		C3712	NEA71CM-106X	E CAPACITOR	10µF,16V
		C3713	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3714	NEA71CM-106X	E CAPACITOR	10µF,16V
		C3715	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3716	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3717	NEA71CM-106X	E CAPACITOR	10µF,16V
		C3718	NEA71CM-106X	E CAPACITOR	10µF,16V
		C3725	NCB31HK-332X	CAPACITOR	0.0033µF,50V
		C3726	NCB31HK-682X	CAPACITOR	0.0068µF,50V
		C3728	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3729	NEA71CM-476X	E CAPACITOR	47µF,16V
		C3730	NEA71CM-476X	E CAPACITOR	47µF,16V
		C3731	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C3733	NCB31HK-332X	CAPACITOR	0.0033µF,50V
		C3734	NCB31HK-682X	CAPACITOR	0.0068µF,50V
		C4001	NCB31CK-104X	CAPACITOR	0.1µF,16V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C4002	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4003	NEA70JM-226X	E CAPACITOR	22µF,6.3V
		C4005	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4006	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4007	NEA70JM-226X	E CAPACITOR	22µF,6.3V
		C4009	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4010	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4011	NEA70JM-226X	E CAPACITOR	22µF,6.3V
		C4013	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4014	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4015	NEA70JM-226X	E CAPACITOR	22µF,6.3V
		C4021	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4022	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C4023	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4024	NCB31CK-223X	CAPACITOR	0.022µF,16V
		C4025	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4026	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4027	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4028	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C4029	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C4030	NCB31CK-473X	CAPACITOR	0.047µF,16V
		C4031	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4032	NDC31HJ-221X	CAPACITOR	220pF,50V
		C4033	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4034	NDC31HJ-102X	CAPACITOR	0.001µF,50V
		C4035	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4036	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4038	NCB20JM-475X	CAPACITOR	4.7µF,6.3V
		C4039	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4040	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4041	NCB20JM-475X	CAPACITOR	4.7µF,6.3V
		C4046	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C4047	NCB31CK-104X	CAPACITOR	0.1µF,16V
		L1001	NQL144K-100X	COIL	10µH
		L1002	NQL17CM-390X	COIL	39µH
		L1003	NQL17CM-390X	COIL	39µH
		L1004	NQL17CM-390X	COIL	39µH
		L1501	NQL144K-100X	COIL	10µH
		L1502	NQL144K-100X	COIL	10µH
		L2001	NQL144K-100X	COIL	10µH
		L2002	NQL144K-100X	COIL	10µH
		L2003	NQL144K-100X	COIL	10µH
		L2004	NQL144K-100X	COIL	10µH
		L2005	NQL144K-100X	COIL	10µH
		L2006	NQL144K-100X	COIL	10µH
		L2007	NQL144K-100X	COIL	10µH
		L2009	NQL024J-2R2X	COIL	2.2µH
		L2010	NQL024J-100X	COIL	10µH
		L2011	NQL024J-120X	COIL	12µH
		L2015	NQR0337-001X	COIL	
		L3001	NQL144K-100X	COIL	10µH
		L3021	NQL144K-100X	COIL	10µH
		L3022	NQL144K-100X	COIL	10µH
		L3101	NQL144K-100X	COIL	10µH
		L3103	NQL144K-100X	COIL	10µH
		L3104	NQL144K-100X	COIL	10µH
		L3111	NQL024J-150X	COIL	15µH
		L3112	NQL024J-150X	COIL	15µH
		L3131	NQL024J-150X	COIL	15µH
		L3132	NQL024J-150X	COIL	15µH
		L3151	NQL144K-100X	COIL	10µH

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		L3521	NQL144K-100X	COIL	10µH
		L3522	NQL144K-100X	COIL	10µH
		L3531	NQL024J-120X	COIL	12µH
		L3532	NQL024J-270X	COIL	27µH
		L3533	NQL024J-120X	COIL	12µH
		L3534	NQL024J-270X	COIL	27µH
		L3701	NQL144K-100X	COIL	10µH
		L3702	NQL144K-100X	COIL	10µH
		L4001	NQL144K-100X	COIL	10µH
		L4002	NQL144K-100X	COIL	10µH
		L4003	NQL144K-100X	COIL	10µH
		L4005	NQL144K-100X	COIL	10µH
		LC1002	PELN1148-223X	NOISE FILTER	
		LC1003	PELN1148-223X	NOISE FILTER	
		LC1004	PELN1148-223X	NOISE FILTER	
		LC3101	PELN0969-04Y	NOISE FILTER	
		X2001	NAX0141-001X	CRYSTAL RESONATOR	
		X2003	NAX0206-001X	CRYSTAL RESONATOR	
		X3101	NAX0218-001X	CRYSTAL RESONATOR	
		K1001	NQR0129-002X	FERRATE BEADS	
		K2001	NQR0129-002X	FERRATE BEADS	
		K3101	NQR0129-002X	FERRATE BEADS	
		K4001	NQR0129-002X	FERRATE BEADS	
		SD1	LP30467-001A	SHIELD COVER	
		ET1	QNZ0136-001Z	EARTH TERMINAL	
		J2001	QNZ0097-001	D CONNECTOR,DV IN/OUT	
		CN1001	QGF1211F1-08W	FPC CONNECTOR,(1-8)SW REG	
		CN1501	QGF0503C1-20X	FFC/FPC CONNECTOR,(1-20)DV MDA	
		CN1502	QGF0505F2-15X	FPC CONNECTOR,(1-15)DV MECHA	
		CN1503	QGF1211F1-04W	FPC CONNECTOR,(1-4)VHS MAIN	
		CN2001	QGB0801L1-26X	CONNECTOR,(1-26)JIG	
		CN3501	QGF1224F1-14X	FFC/FPC CONNECTOR,(1-14)VHS MAIN	
		CN3701	QGF1016F2-08W	FFC/FPC CONNECTOR,(1-8)VHS MAIN	
		CN4001	QGF0503C1-08X	FFC/FPC CONNECTOR,(1-8)DV PRE/REC	

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LOADING MOTOR BOARD ASSEMBLY <55>

		PW2	LP10122-01A2	LOADING MOTOR BOARD ASSY	
		CN1	QGB2533K1-02	CONNECTOR	

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JOG BOARD ASSEMBLY <85>

		PW3	LPA10150-01A3	JOG BOARD ASSY	
		UN7001	QSW0905-001	ROTARY ENCODER	